ORDER NO. VRD9404M109

Service Manual

Video Cassette Recorder

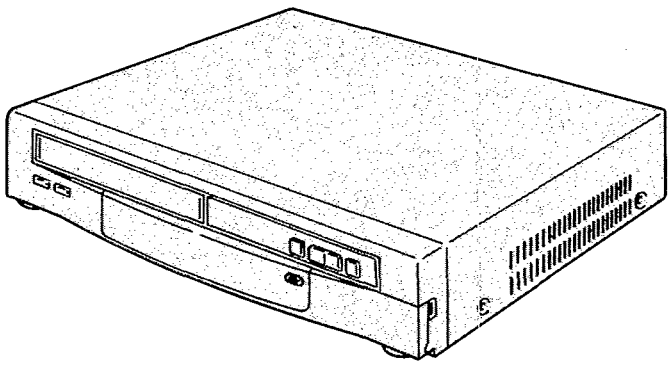
General Description
Adjustment Procedures
Block / Schematic Diagrams
Exploded Views / Parts List

Panasonic VHS PAL

Hi-Fi HQ

NV-HD90B

K-MECHANISM



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	SOURCE: 220–240 V AC 50/60 Hz
	CONSUMPTION: 32 watts
RECORDING SYSTEM	2 rotary heads, helical scanning system
	PAL
TV TUNER SYSTEM	UHF: CH21~CH69 (PAL I) 75Ω terminated
RF OUT SYSTEM	UHF: CH36±6 (PAL I) 73±3dBμ, 75Ω terminated
VIDEO	HEADS: 4 rotary heads 1 pair for SP recording, playback and trick play (L-R heads) 1 pair for LP recording, playback and trick play (L'-R' heads)
	INPUT: EURO AV Connector (21 pin) 1.0 Vp-p, 75Ω unbalanced
	OUTPUT: VIDEO OUT Connector (Phono type) 1.0 Vp-p, 75Ω unbalanced EURO AV Connector (21 pin) 1.0 Vp-p, 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio) 2 rotary heads (Hi-Fi 2CH)

ITEM	SPECIFICATION
AUDIO	INPUT: EURO AV Connector (21 pin) More than −6dBV (500mV), more than 10kΩ
	OUTPUT: AUDIO OUT Connector (Phono type) −8dBV (400mV), Less than 1kΩ EURO AV Connector (21 pin) −6dBV (500mV), Less than 1kΩ
	TRACK: 1 track (Normal-mono only) 2 channels (Hi-Fi Sound-Stereo)
TAPE FORMAT	VHS Cassette tape (Tape width 12.7mm)
TAPE SPEED	SP: 23.39mm/s LP: 11.695mm/s Record/Playback Time: SP: 4 hours with 240min. type tape LP: 8 hours with 240min. type tape FF/REW Time: 2.5min. with 180min. type tape
DIMENSIONS	430(W)×96(H)×349(D) mm
WEIGHT	5.0kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Infra-red Remote Controller 1 pc. AC Mains Lead

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with technical know how for actual servicing and general information of features and controls, enabling you to become familiar with each function.
Section 2 presents to your mechanical and electrical adjustment information as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to the appropriate service manual.
Section 3, 4 contains block diagrams which provides you with information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c. ...
Section 5 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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Technical Information

Subject: How to install the PDC DECODER (VW-PDC1E)

1. Do not connect the video recorder to the AC outlet
2. Remove the 4 screws(A) and the Top Panel. (Fig. P1)
3. Remove the 2 screws(B), 3 screws(C) and unlock the tab(D). (Fig. P2)
4. Lift the Main C. B. A. up side down and lie it on the Cassette Compartment.
   Insert the PDC Decoder. (Fig. P3)

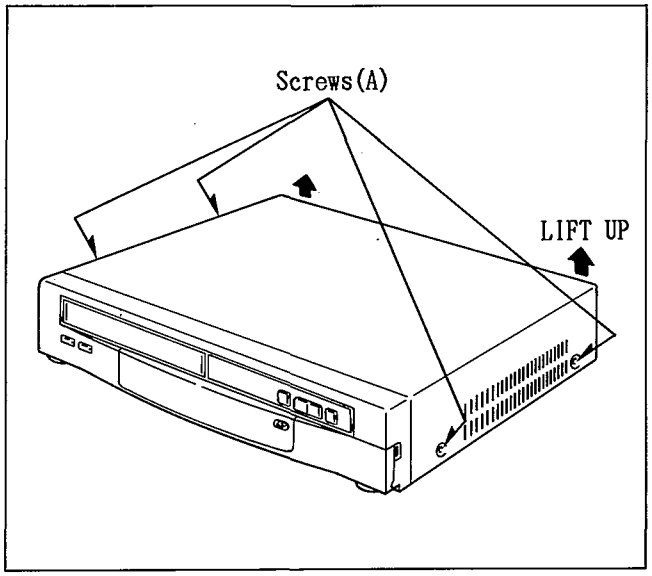


Fig. P1

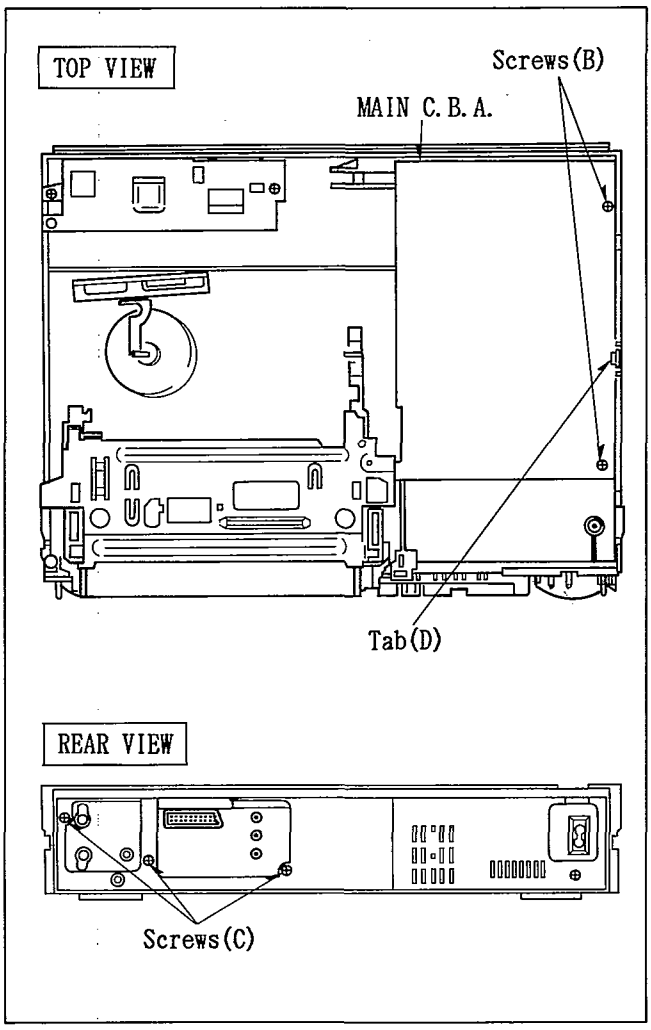


Fig. P2

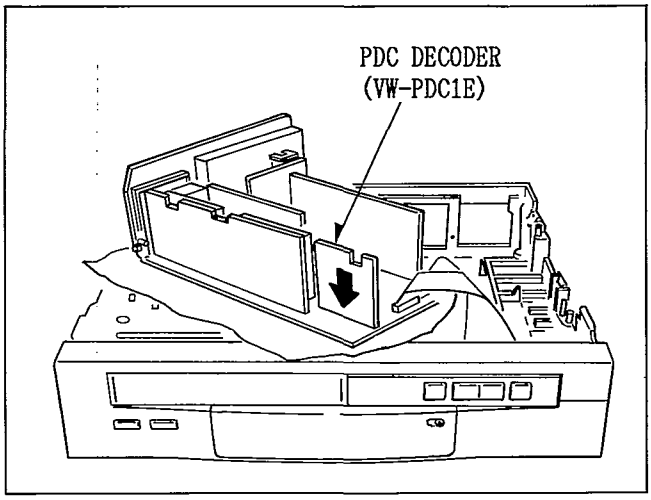


Fig. P3

SECTION 1
GENERAL DESCRIPTIONS

1-1. SERVICE INFORMATION

<A> MECHANISM SERVICE POSITION

When servicing the K-Mechanism, the Mechanism can easily be fixed by standing the Mechanism up in the Main Frame as shown below to check easily.

In this position, the following services are possible.

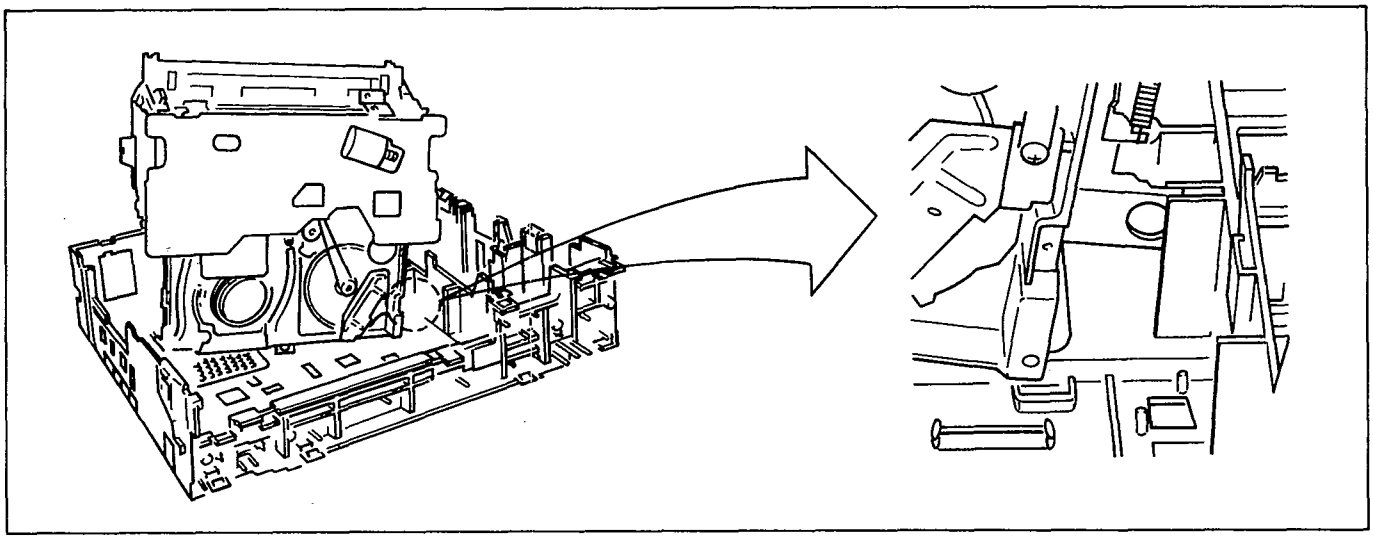


Fig. S1

<A-1>CHECKING OF GEAR PHASE ALIGNMENT CONDITION

1) Remove the Mechanism Connection C.B.A.
2) Check gear phase alignment condition of Mechanism described on the bottom side of Frame.

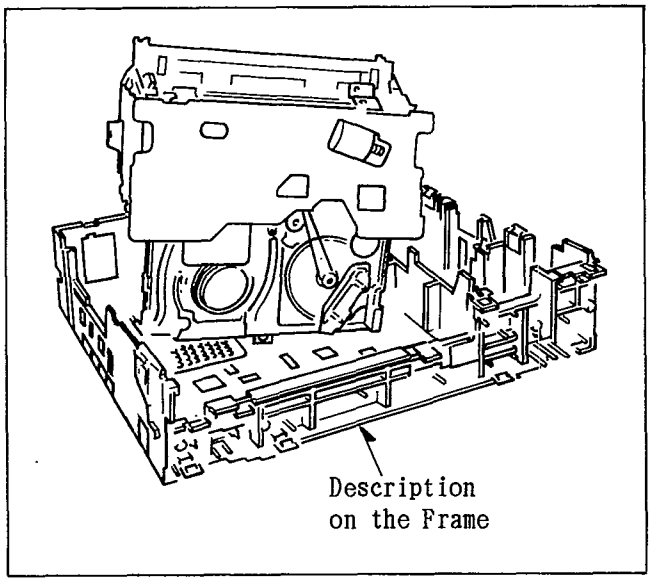


Fig. S2

<A-2> CHECKING OF LOADING / UNLOADING OPERATION

There are 3 methods for checking of loading/ unloading operation as follows.

(1) HAND OPERATION

1) Remove the Mechanism Connection C.B.A.
2) Turn the Worm Gear or the Worm Wheel Gear (Remove the Loading Motor Unit) manually.

(2) BATTERY OPERATION

1) Remove the Mechanism Connection C.B.A.
2) Connect the Battery (Manganes-Type R6(AA) 3pcs./+4.5V) to the Loading Motor terminals.

(3) SERVICE INFORMATION DISPLAY OPERATION

1) Set the Service Information Display mode. (Press the "FF","REW" and "EJECT" buttons simultaneously.)
2) Press the "FF","REW" and "EJECT" buttons 7 times to set the Service Mode 7. (The end of display on the Display becomes "—".)

3) In the above Service Information Display mode, the Loading Motor rotates for loading operation when the "PLAY" button is pressed. The Loading Motor rotates for unloading operation when the "STOP" button is pressed.

Remark:
Use the "SERVICE INFORMATION DISPLAY" mode for a final check of mechanism movement.

<A-3> CHECKING OF REEL GEARS OPERATION

1) Remove the Mechanism Connection C.B.A.
2) Move the mechanism to "PLAY" position by loading operation. (Refer to <A-2>)
3) Turn the "Rotor Unit" to check movement of reel gears.

<B> TUNER & TV DEMODU. C.B.A.s SERVICE POSITION

Use the Extention Cables when checking.

PART NO.	PART NAME	PCS.	CONNECTION
VFK0944	5-PIN WIRE CABLE	3	PP7002-PS703 PP7003-PS702 PP7004-PS701
VFK0890	6-PIN WIRE CABLE	1	PP7001-PS704

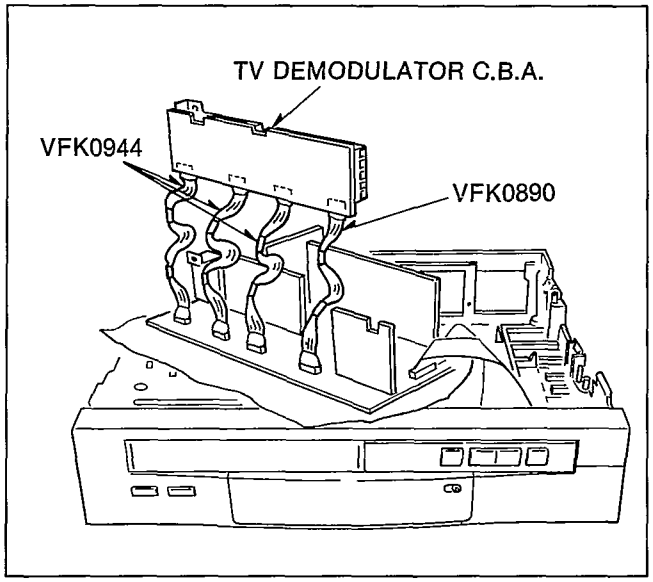


Fig. S3

<C> CYLINDER UNIT REPLACEMENT

The Cylinder Unit can be replaced easily by the following method.

1) Remove the Top Panel.
2) Remove the 3 screws of the Cylinder Unit with a magnetized screw driver through the holes on the Bottom Plate as shown in Fig. S4.

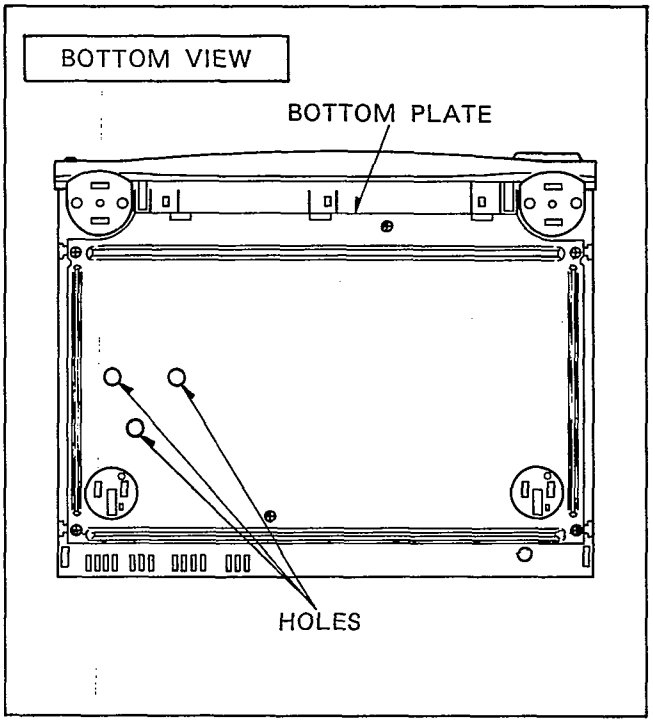


Fig. S4

<D> CAPSTAN STATOR UNIT ASSEMBLY

When replacing the Capstan Stator Unit, the CENTRE FIXING TOOL (VFK0851) must be used to fix the centre of Capstan Stator Unit.

Method:
1) Place the Capstan Stator Unit into position.
2) Loosely tighten the 3 screws.
3) Insert the CENTRE FIXING TOOL (VFK0851) as shown in Fig. S5.
4) Tighten the 3 screws.
5) Remove the CENTRE FIXING TOOL.

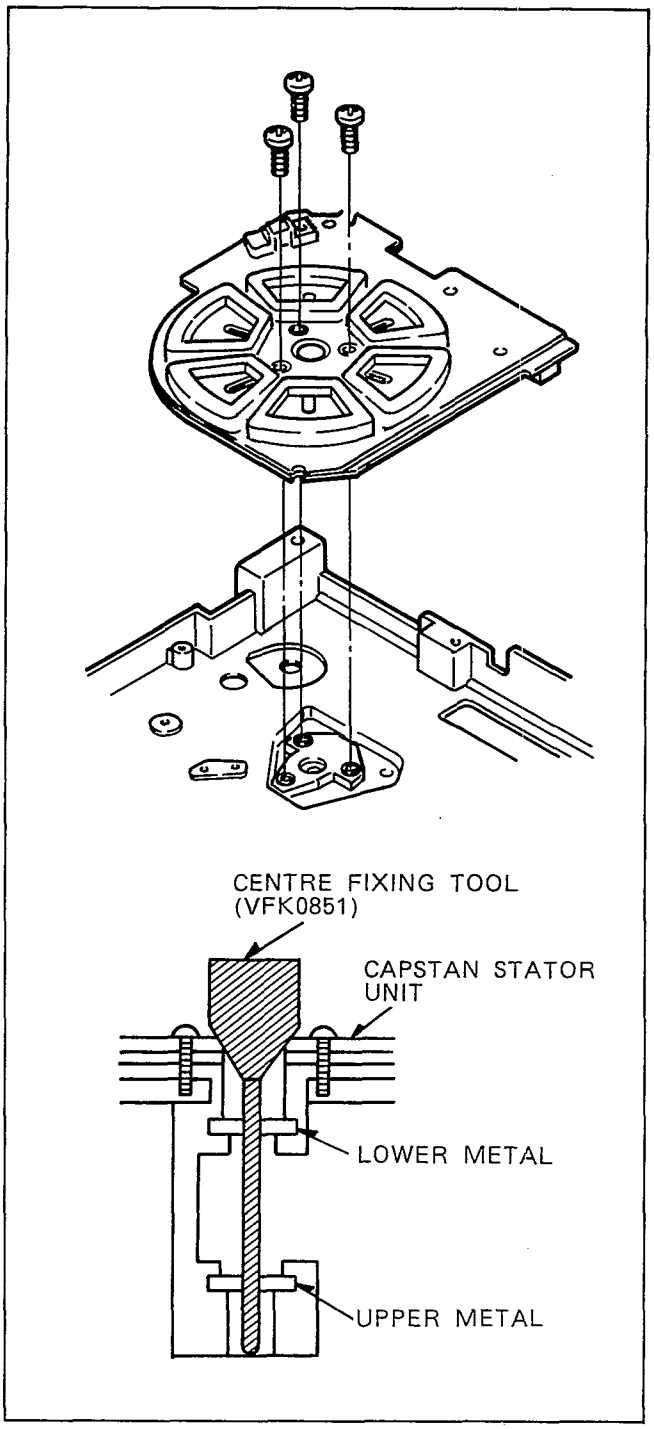


Fig. S5

<E> EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

Note:
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear and will not rotate.
To perform the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

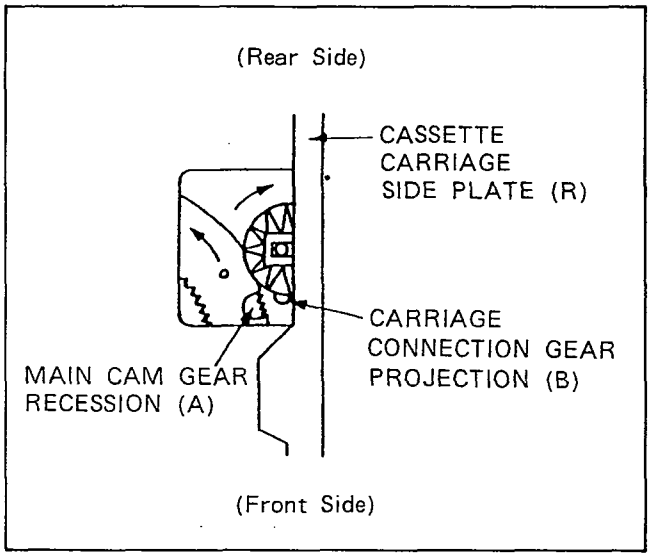


Fig. S6 Top View of Eject Operation

<F> TAKE-UP PHOTO SENSOR OPERATION

Note the following matters for Take-up Photo Sensor Operation.

1) While servicing of the K-Mechanism, the unit will not operate properly if a strong light (ex, Fluorescent light, Spot light) falls on the Take-up Photo Sensor.
   In this case, cover the Take-up Photo Sensor to prevent the light from falling on it.
2) While servicing of the K-Mechanism with "Power On" and without cassette tape inserted, the Unit will not operate properly.

<G> POWER TRANSISTOR SERVICING

When removing the connector of the Power Transistor, hold the Power Transistor by hand to prevent damage.

<H> CASSETTE TAPE REMOVAL

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to remove the cassette manually. There are 2 methods of removing the cassette.

(1) HAND OPERATION

1) Remove the bottom plate.
2) Turn the Worm Gear to "A" arrow mark direction manually as shown in Fig.S7, moving the Loading Post to the unloaded position.
3) Turn the Capstan clockwise to take up the tape.
4) Turn the Worm Gear again to eject the cassette.

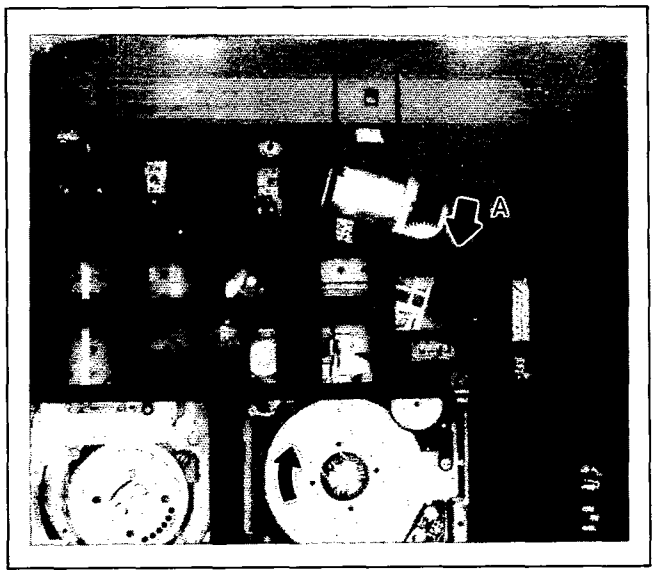


Fig. S7

(2) BATTERY OPERATION

1) Connect the battery(Manganes-Type R6(AA) 3pcs./+4.5V) to P1503 as shown in Fig.S8, S9.
2) After moving the Loading Post to the unloaded position, disconnect the battery to stop the motor.
3) Turn the Capstan to clockwise to take up the tape.
4) Reconnect the battery to eject the cassette.

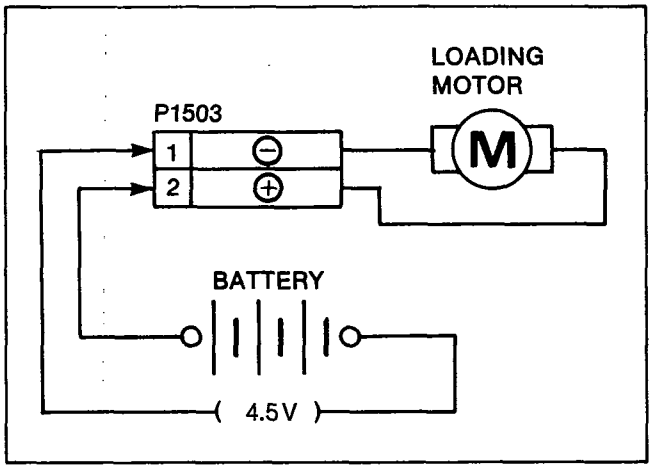


Fig. S8

If the cassette tape can not be removed by the above 2 methods, remove it by the following method.

1) Remove the Top Panel.
2) Remove the Front Panel Unit.
3) Lift up the Pinch Arm after removing spring.
4) Push the P5 Arm and remove the cassette tape from tape transportation(P1, P2, P3 and P5 Posts).
5) Turn the Capstan Motor to take up the tape.
6) Remove 1 screw from the Side Plate (R) Unit to disconnect the Rack Gear from the Carriage Connection Gear.
7) Take out the cassette tape from the Cassette Compartment.

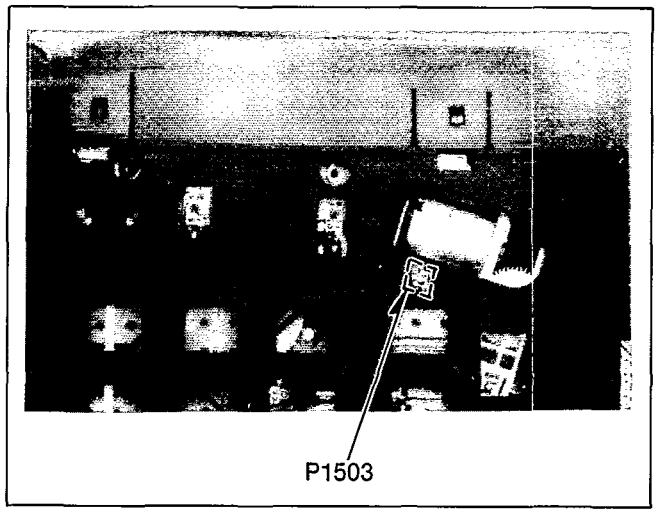


Fig. S9

<I> FLAT CARD CABLE INSTLLATION

When installing the Flat Card Cable on the connector, install the Flat Card Cable with the cable contacts facing the connector contacts.

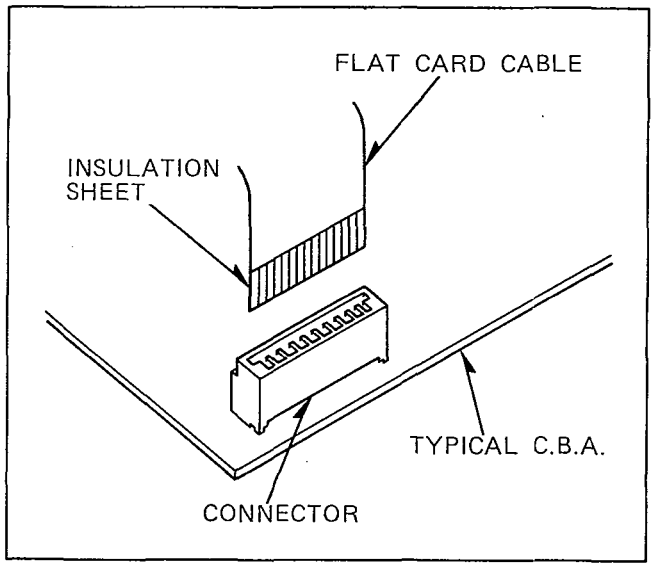


Fig. S10

<J> CHANNEL MEMORY IC INITIALIZATION

When replacing the channel memory IC7503(Part No.:M6M80011AP), its IC should be initialized.

Method:

1) Press the CH UP/DOWN button so that the channel indicator indicates "3".
2) Connect a jumper wire twice to Pin 54 and Pin 34 of IC7501.
3) Channel indication changes from "3" to "1".

Note:

1) It should be performed before tuning.
2) Do not turn off the power source during initialization or 1 second after.

1-2. SERIAL CLOCK TRANSMISSION ERROR DISPLAY

If the Serial Clock is not transmitted from IC6001 to IC7501, "E9" is displayed as shown in Fig. T1. This indication will be displayed the Operate button is either ON or OFF.

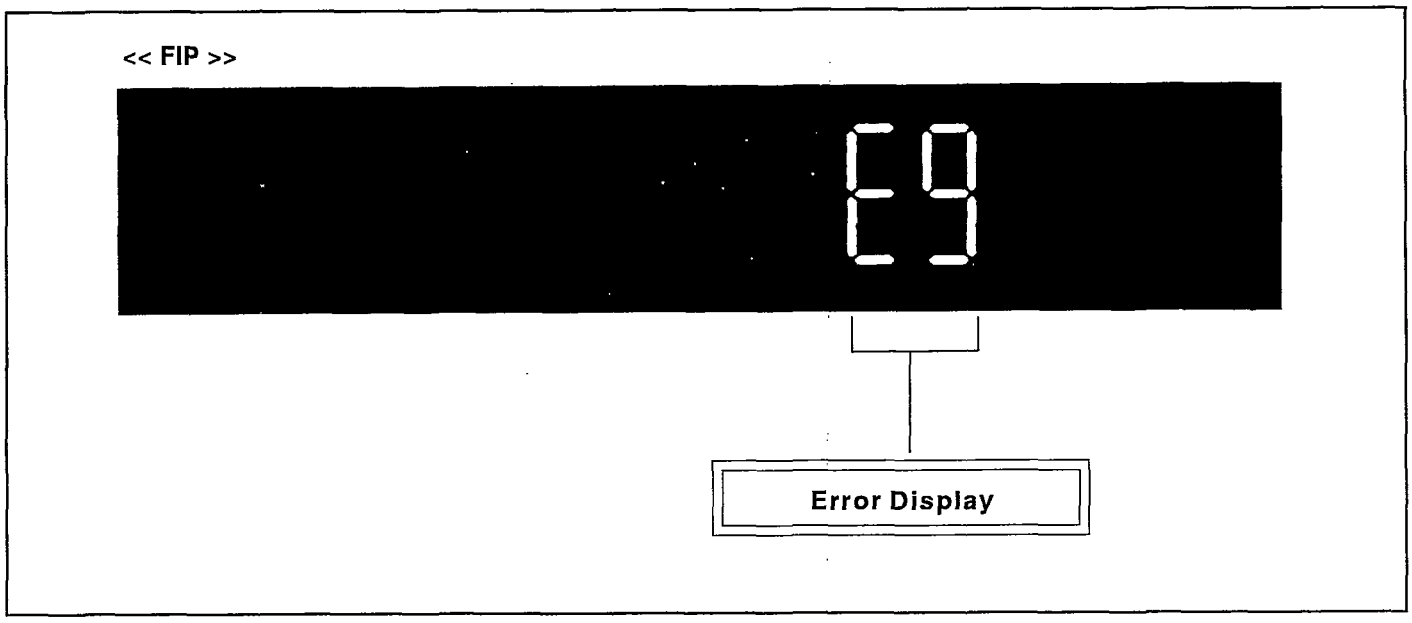


Fig. T1 Serial Clock Transmission Error Display

1-3. SERVICE INFORMATION DISPLAY

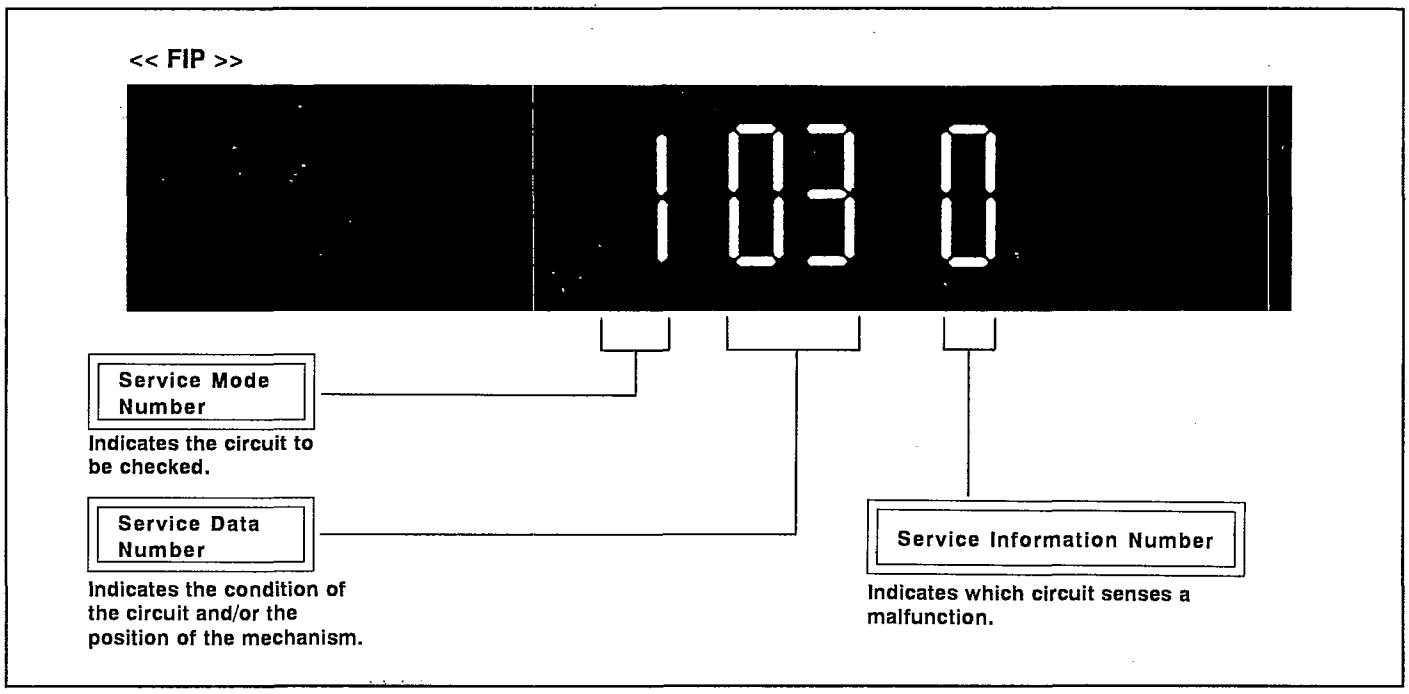

<< FIP >>
1 03 0
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicates the condition of the circuit and/or the position of the mechanism.
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D1 Service Information Display

1-3-1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by the consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

1-3-2. Turning on Service Information Display

There are two ways to turn on the Service Information Display.

(1) Press the FF, REW and EJECT buttons simultaneously.
The Service Information will be displayed for 1 minute.

(2) Connecting a jumper wire between TLSERV and GND will display the service information indefinitely.

In the Service Information Display, there are four digits divided into 3 functions. The first digit indicates which of the 7 service modes that the unit is currently in.

MODE 1 :Checks tape protection circuit
MODE 2 :Checks tape transport mechanism
MODE 3 :Checks mode switching operation
MODE 4 :Checks control buttons
MODE 5 :Checks capstan motor
MODE 6 :Checks cylinder motor
MODE 7 :Checks loading/unloading operation

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service information display. It is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is supplied.

1-3-3. Use of Service Modes

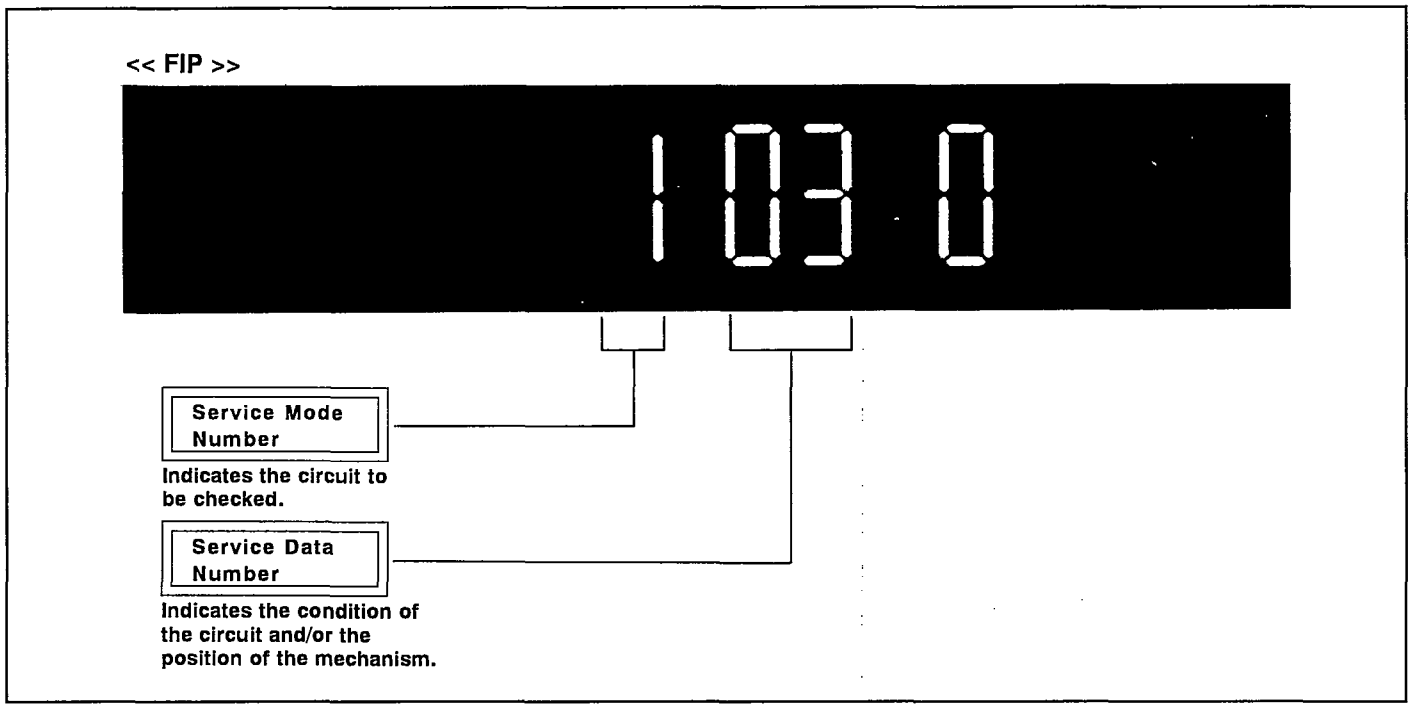

<< FIP >>
1 03 0
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicates the condition of the circuit and/or the position of the mechanism.

Fig.D2 Service Mode Number and Service Data Number on S.I.D.

(1) Turn on Service Information Display.

(2) To change Service Modes press the FF, REW and EJECT buttons simultaneously.

(3) Mode 1 : Check that the Sensor LED, Supply & Take-up Sensor circuits check the circuits by blocking the light from the Sensor LED to either or both Supply & Take-up Sensors.
When the light is blocked to both sensors, " 00 " should be indicated on the service data number. When the light is blocked to the supply sensor, " 01 " should be indicated.

(4) Mode 2 : Checks the mode switch circuit while indicating mechanism position.
Service Data Numbers indicate the position of the mode switch and there by the mechanism position.

(5) Mode 3 : Checks that mode switch circuit operations have been completed.
Service Data Number should indicate " 00 " after each mechanism operation is completed.

(6) Mode 4 : Checks the operation circuit. Indicates if IC6001 receives the operating commands from the mode buttons and/or remote controller.

(7) Mode 5 : Checks the capstan motor circuit.
Indicates if the IC6001 has received the command to rotate the capstan motor.

(8) Mode 6 : Check the cylinder motor circuit. IC6001 has received the command to rotate the cylindermotor.

(9) Mode 7 : Checks the Loading/ Unloading Operation.
The Loading Motor rotates for loading operation when the " PLAY " button is pressed.
The Loading Motor rotates for unloading operation when the " STOP " button is pressed. This mode can be displayed indefinitely until the OPERATE button is pressed.

<NOTE>

Refer to Fig. D5 for details of Service Data Number.

1-3-4. Service Information Number

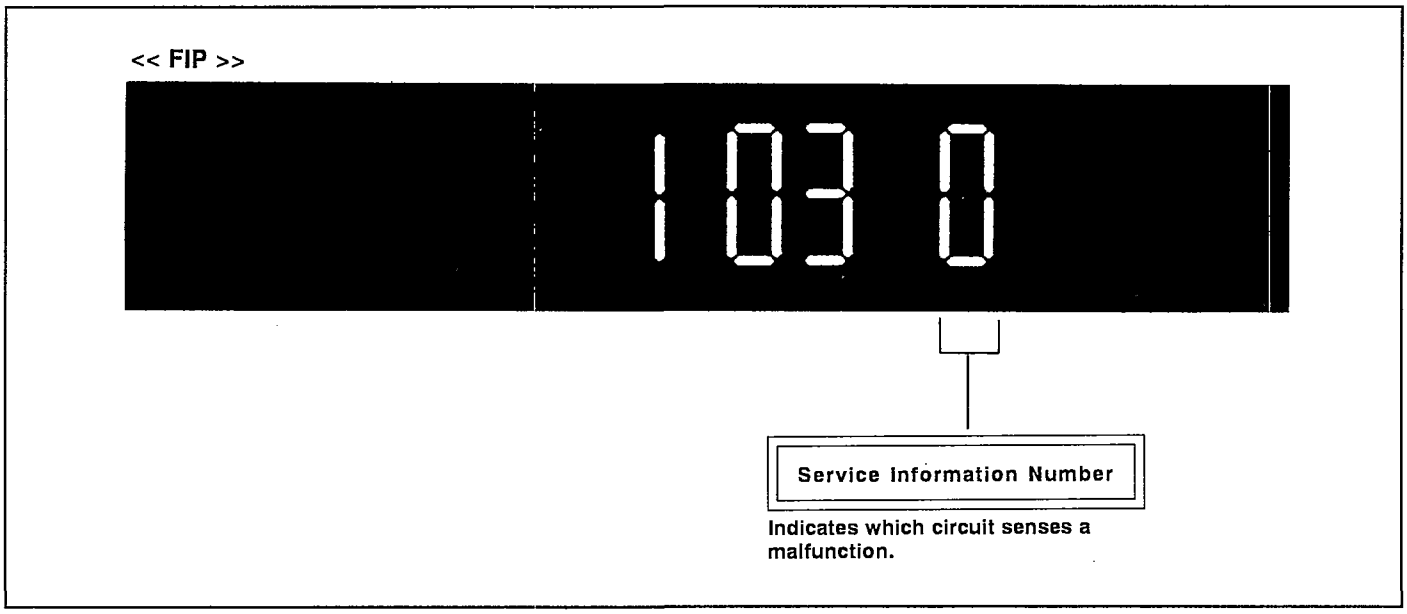


Fig. D3 Service Information Number on S. I. D.

Refer to Fig. D4 for details of Service Information Number.

Note:

The Service Information Number display is independent of the service mode display. The Service Information Number will be stored as long as AC power is supplied. If a second error occurs, only the most recent error will be displayed.

Service Information Number	Malfunction
0	Normal (No problem)
1	Cylinder stop
2	Tape reel stop
3	Stop at position other than 4 or 6
4	Stop during unloading
5	Faulty capstan rotation
6	Stop during Cassette-IN/Eject operation
7	D.REC 12V error

Fig. D4 Detail Service Information Numbers

Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	———	00	No light detected at either sensor	*Tape not required*
		01	Tape Beginning. Light to Supply Photo Sensor is blocked.	
		02	Tape End. Light to Take-up Photo Sensor is blocked.	
		03	Light detected at both sensors.	
2	———	00	EJECT	Tape Required *1:STOP3; The Pinch Roller is on the capstan motor shaft. *2:STOP; The Pinch Roller is off the capstan motor shaft. Refer to Fig.D7 to Check mechanism Position and timing.
		01	Cassette-down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3 *1	
		05	STOP *2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required.
4	Display only when the operating button is pressed.	Refer to Fig. D6.		Tape not required
5	Left digit only, disregard Right digit display.	Left Digit 8 1 Right Digit	8, 9, u, A, -, n, L, and no display indicate that the Capstan motor "PLAY" command received by IC6001.	Tape required. *If a symbol other than those listed is* displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard left digit display.	Left Digit 8 7 Right Digit	1, 2, 3, 4, 5, 6 7, indicate that the Capstan motor "CUE, FF, Forward slow" commands received by IC6001.	
	Right digit only, disregard left digit display.	Left Digit 8 Right Digit	8, 9, u, A, -, n, L, and no display indicate that the Capstan motor "Reverse, Rew, Reverse Slow" commands received by IC6001.	
6	Left digit only, disregard Right digit display.	Left Digit 1 0 Right Digit	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	*Tape required.* If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

SERVICE DATA NUMBERS	MODE BUTTONS	SERVICE DATA NUMBERS	MODE BUTTONS
3n	OPERATE	54	RESET
01	EJECT	5	ZERO STOP
-9	PAL/MESECAM	49,4U	INDEX
——	CHECK/PROG.	A1,A2	TRACKING(+,-)/V-LOCK
34 or 35	∧ ∨ , + −	——	PROG.
——	NEXT	——	NEXT
——	SLEEP / SHIFT	00	STOP
A4	TIMER REC	03,02	FF, REW
08	REC	——	TV / VTR
——	CLOCK SET	——	DISPLAY
——	TUNER PRESET	0U	PLAY
06	PAUSE / STILL		

Fig. D6 Service Data Display for Service mode 4

1-3-5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position through the Mode SW.
Fig. D7 shows the timing for Service Mode Number 2.

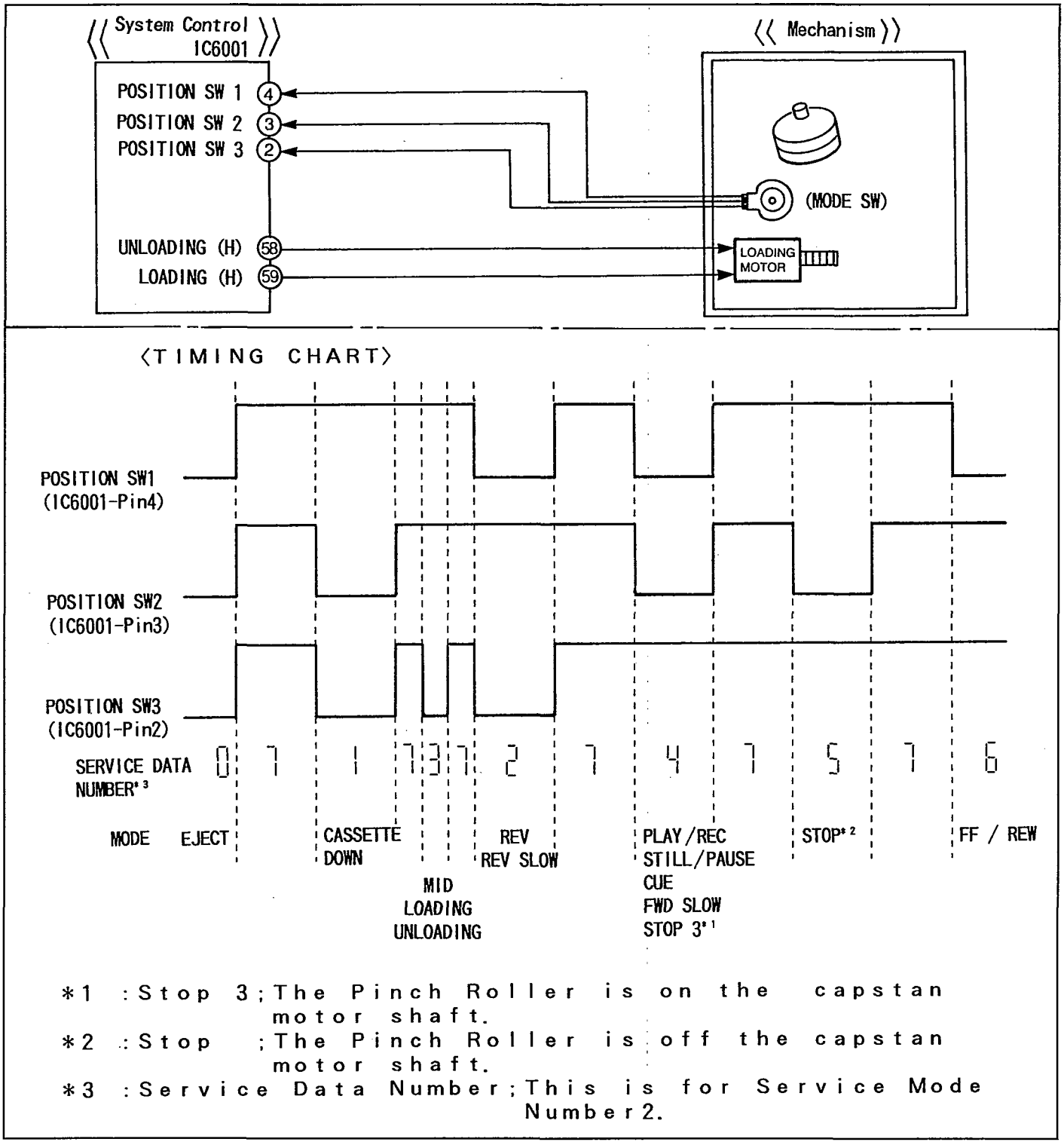

System Control IC6001
Mechanism
POSITION SW 1 4
POSITION SW 2 3
POSITION SW 3 2
UNLOADING (H) 58
LOADING (H) 59
(MODE SW)
LOADING MOTOR
〈TIMING CHART〉
POSITION SW1 (IC6001-Pin4)
POSITION SW2 (IC6001-Pin3)
POSITION SW3 (IC6001-Pin2)
SERVICE DATA NUMBER*3
0 1 1 1 3 1 2 1 4 1 5 1 6
MODE
EJECT
CASSETTE DOWN
MID LOADING UNLOADING
REV REV SLOW
PLAY/REC STILL/PAUSE CUE FWD SLOW STOP 3*1
STOP*2
FF / REW
*1 : Stop 3 ; The Pinch Roller is on the capstan motor shaft.
*2 : Stop ; The Pinch Roller is off the capstan motor shaft.
*3 : Service Data Number ; This is for Service Mode Number 2.

Fig. D7 Timing Chart of Mode SW

1-3-6. Input/Output Chart for IC6001

<table>
<tr><th>Pin Number</th><th>Input/Output</th><th>Port Name</th><th>Function</th></tr>
<tr><td>1</td><td>I</td><td>SAFETY TAB</td><td>When inserting the cassette tape with safety tab, this port is low. When there is no safety tab, this port is high to prevent recording.</td></tr>
<tr><td>2</td><td>I</td><td>POSITION SW 3</td><td rowspan="3">
<table>
<tr><th>P.SW 3</th><th>P.SW 2</th><th>P.SW 1</th><th>Position (Mode) Name</th></tr>
<tr><td>O</td><td>O</td><td>O</td><td>EJECT</td></tr>
<tr><td>O</td><td>O</td><td>I</td><td>CASSETTE DOWN</td></tr>
<tr><td>O</td><td>I</td><td>O</td><td>REV, REV SLOW</td></tr>
<tr><td>O</td><td>I</td><td>I</td><td>MID (LOADING / UNLOADING)</td></tr>
<tr><td>I</td><td>O</td><td>O</td><td>PLAY/REC, STILL/PAUSE, CUE, FWD SLOW STOP3 *1</td></tr>
<tr><td>I</td><td>O</td><td>I</td><td>STOP</td></tr>
<tr><td>I</td><td>I</td><td>O</td><td>FF/REW</td></tr>
<tr><td>I</td><td>I</td><td>I</td><td>INTERMEDIATE</td></tr>
</table>
(*1) The Pinch Roller is on the capstan motor shaft.
</td></tr>
<tr><td>3</td><td>I</td><td>POSITION SW 2</td></tr>
<tr><td>4</td><td>I</td><td>POSITION SW 1</td></tr>
<tr><td>5</td><td>I</td><td>SUPPLY REEL PULSE</td><td>Supply Reel Pulse Input
(For detecting tape remaining)</td></tr>
<tr><td>6</td><td>I</td><td>NORMAL/SERVICE/ TEST</td><td>Service Mode Setting
Normal Mode: High
Service Mode: Middle
Test Mode: Low</td></tr>
<tr><td>7</td><td>I</td><td>DEW</td><td>When Dew is detected, this port is middle.
Normally, this port is low.</td></tr>
<tr><td>8</td><td>I</td><td>TEST</td><td>Not used (Low setting)</td></tr>
<tr><td>9</td><td>I</td><td>ENVELOPE SELECT</td><td>The playback envelope video signal level is detected at this input to select the video head in the special playback modes.</td></tr>
<tr><td>10</td><td>O</td><td>ROTARY SW</td><td>This signal is supplied to the chrominance circuit to perform the phase rotation.</td></tr>
<tr><td>12</td><td>O</td><td>HEAD AMP SWITCH</td><td>This signal is supplied to the head amp circuit to switch the video head, SP or LP.</td></tr>
<tr><td>14</td><td>O</td><td>ARTIFICIAL V /H/N</td><td>Artificial Vertical Sync Signal is supplied to video circuit to stabilize the picture in the special playback modes.</td></tr>
<tr><td>17</td><td>I</td><td>TAKE-UP PHOTO</td><td>Take-up Side Photo Sensor Input
(For detecting tape beginning)</td></tr>
<tr><td>18</td><td>I</td><td>SUPPLY PHOTO</td><td>Supply Side Photo Sensor Input (For detecting tape end.)</td></tr>
</table>

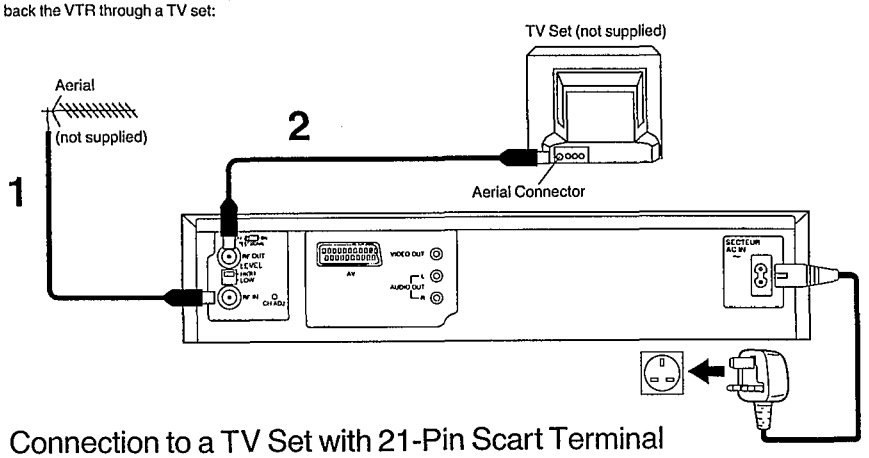
Pin Number	Input/Output	Port Name	Function
19	I	TAKE-UP REEL	*Take-up Reel Pulse Input* (For detecting tape remaining and reel (Cap.) lock.
20	O	SP/LP	Tape Speed Output SP: Low LP: High
47	O	VTR (H)	VTR / TV Switch Output VTR: High TV: Low
48	O	SP (H)	Tape Mode Output SP: High LP: Low
54	O	SENSOR LED ON (L)	When turning on the Sensor LED, this port is low. 1) STOP Mode: No lit. 2) FF, REW, CUE, REV Modes: DC is lit. 3) EJECT Mode: Pulse blinking. (Cycle: 320[msec])
55	O	VOLTAGE CHANGE (H)	When increasing the drive torque of loading motor to perform the FF/REW mode, this port is low.
58	O	UNLOADING (H)	When unloading, this port is high.
59	O	LOADING (H)	When loading, this port is high.
63	O	SERIAL CLOCK	Serial Clock Output
64	I/O	SERIAL DATA	Serial Data In/Out
66	O	DELAYED REC (H)	When the video goes to the recording mode after a delay from the video recording command, this port is high.
67	O	DELAYED AUDIO REC (H)	When the audio goes to the recording mode after a delay from the audio recording command, this port is high.
68	O	FULL ERASE (H)	When the video goes to the recording mode, this port is high.
69	O	REC (H)	When the video goes to the recording mode, this port is high.
70	O	NTSC (L)	System Output NTSC: Low PAL: High
71	O	AUDIO MUTE (H)	When the audio goes to the mute mode, this is high.
72	O	CAPSTAN REVERSE (H)	When the capstan motor rotates in reverse, this is high.
73	O	AUDIO EE (H)	When the audio goes to the EE mode, this is high.

Pin Number	Input/Output	Port Name	Function
75	O	CURRENT EMPHASIS (H)	When the servo goes to the edit mode, this is high.
76	O	FF/REW (L)	When the servo goes to the FF/REW mode, this is low.
78	O	VIDEO EE (L)	When the video goes to the EE mode, this is low.
79	O	TRICK (L)	When the video goes to the special playback (CUE, REV, SLOW, STILL) mode, this is low.
80	O	POWER OFF (H)	Power ON/OFF Control is low when the power switch is turned on.
84	I	RESET (L)	When reseting the IC6001, this port is low.

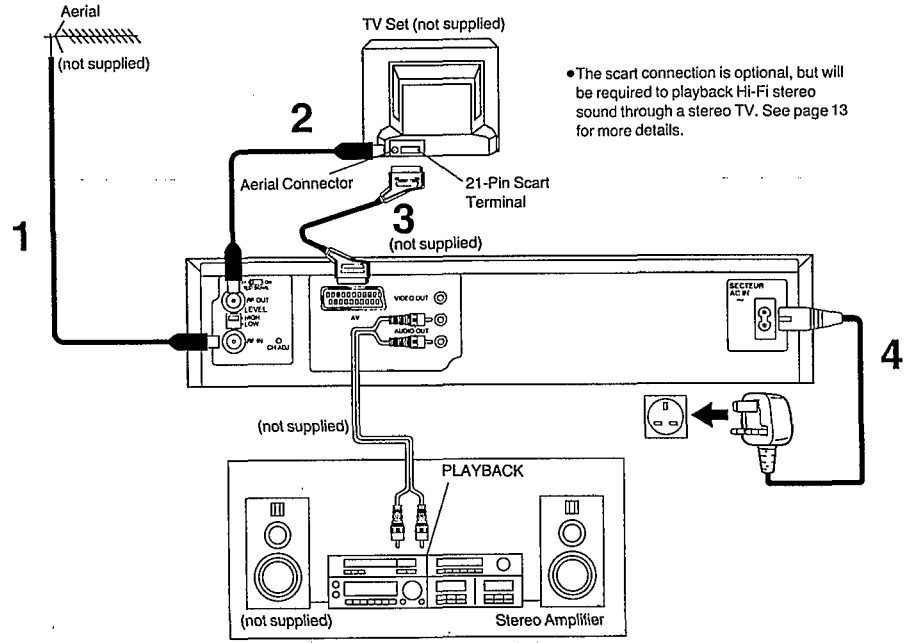
Connections

Basic Connections

The following connections are required to record and play back the VTR through a TV set:



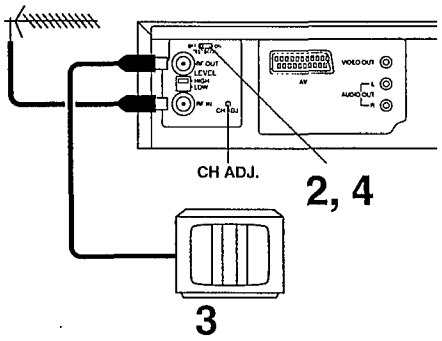
Connection to a TV Set with 21-Pin Scart Terminal

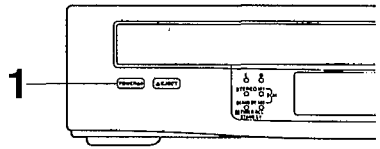


- The scart connection is optional, but will be required to playback Hi-Fi stereo sound through a stereo TV. See page 13 for more details.

•Connection to a Stereo Amplifier

Tuning the TV to your VTR





It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

If you have connected the VTR to the TV through the 21-pin scart terminal or Audio/Video sockets, then you do not need to follow the procedure mentioned below.

Preparation

- Turn on the TV.
- Refer to the operating instruction of the TV set and carry out tuning/preset procedure.

Operations

1 POWER — Turn on the VTR.

2 OFF ON TEST SIGNAL — To generate a test pattern, set **TEST SIGNAL** to ON.

3 — Set the TV to an unused position which you wish to use for your video playback.

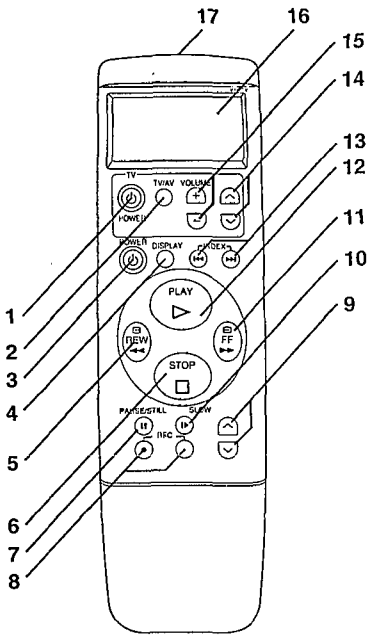
- Tune the TV until the test pattern appears on the screen.
- On Panasonic TV the programme number 0 should be selected to obtain best performance.

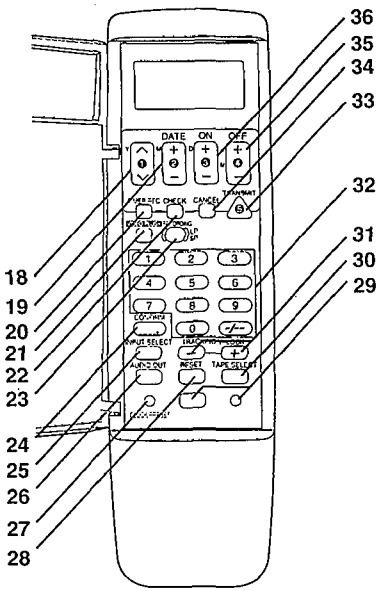
4 OFF ON TEST SIGNAL — Set **TEST SIGNAL** to OFF.

Note:
The test signal is transmitted on channel 36 of the UK broadcasting channels. If you are encountering interference from another broadcast on the video channel, you may readjust to a free channel (30–42) by using the **CH ADJ.** screw which is located on the rear of the VTR.

Please note that if the **CH ADJ.** screw is used then you will have to retune your TV to the test signal as in item 2 to 4 above.

Infra-red Remote Controller





1 POWER (TV)
To switch the TV from on to standby mode or vice versa. In standby mode, the TV is still connected to the mains.
- With some TV models, it may only be possible to switch the TV to standby mode using this button.

2 TV/AV
To select the TV input.

3 POWER
To switch the VTR from on to standby mode or vice versa. In standby mode, the VTR is still connected to the mains.

4 DISPLAY
To change the indication on the VTR Display.

→Clock→Counter→Remaining Tape Time→

5 REW (REWIND)
In the stop mode: To rewind the tape.
In the playback mode: To search backward.
In the rewind mode: To obtain high speed picture.
"◁◁" is lit.

6 STOP
To stop any playback or recording.

7 PAUSE/STILL
During playback: Still picture
During recording: To interrupt recording.

8 REC
To start a recording.
- Press both buttons simultaneously.

9 ∨∧ (VTR)
To select the required programme position (TV station) of the VTR.

10 SLOW
For the slow motion playback function.

11 FF (FAST FORWARD)
In the stop mode: To fast forward the tape.
In the playback mode: To search forward.
In the fast forward mode: To obtain high speed picture.
"▷▷" is lit.

12 PLAY
To start playback. "▷" is lit.

13 INDEX
For the index search function.

14 ∨∧ (TV)
To select the required TV station of the TV.

15 VOLUME
To adjust the volume of the TV.

16 Display

17 Infra-red Transmitter
The programming data are transmitted from here to the VTR.

18 ∨∧ (Y)
- To programme a timer recording.
- To set the clock.

19 DATE (M)
- To programme a timer recording.
- To set the clock.

20 TIMER REC
To turn the timer recording function on and off.
⊡ is lit or not lit.
Once operating timer recording function, the normal VTR operation is not possible unless this button is set to off.

21 VIDEO PLUS+
To programme a Video Plus+ PlusCode.

22 CHECK
To check timer programmes while the Timer recording function is on.

23 RECORDING SP/LP
To select the tape speed desired for recording.
SP gives the best picture quality.
LP gives the longest recording time.

24 CONFIRM
To convert the data of a PlusCode.

25 INPUT SELECT
To select the "A1" external recording source.

26 AUDIO OUT
To select the desired sound mode.
At the every push of this button, the audio output mode changes as follows.

→Stereo→Left→Right→Normal audio track→

The Left (L) and Right (R) Indicators show which sound mode is selected in the following way.

Stereo: Both the Left (L) and Right (R) Indicators are lit.
Left: The Left (L) Indicator is lit.
Right: The Right (R) Indicator is lit.
Normal: Both the Left (L) and Right (R) Indicators are not lit.

27 *CLOCK/PRESET*
- To set the clock.
- To set the satellite position.
- To set the brand number of the TV.

28 RESET
To reset the tape counter (elapsed time) to "0:00.00".
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

29 No function.

30 TAPE SELECT
To set the cassette tape length in order to obtain correct indication of the remaining tape time.
E195: For E30, -60, -80, -120, -180 and -195 tapes
E240: For E240 tape
E260: For E260 tape

31 TRACKING/V-LOCK
To adjust the tracking and the vertical locking.
(See page 21.)

32 Programme Position Selector Buttons
- To select the programme positions (1–42).

9: (9)
19: (-/--) → (1) → (9)

- To enter a PlusCode.

33 TRANSMIT
To transmit the data that has been set on the remote controller to the VTR.

34 CANCEL
To cancel the settings made for a timer recording.

35 OFF (H/M)
- To programme a timer recording.
- To set the clock.
- To set the brand number of the TV.
- To set the satellite position.

36 ON (D)
- To programme a timer recording.
- To set the clock.

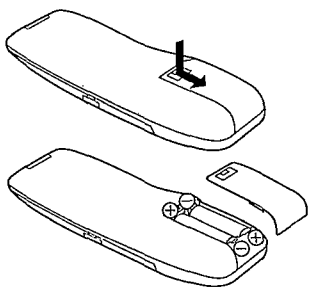
Power Source for the Remote Controller

The remote controller is powered by 2 "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

Precautions for Battery Replacement

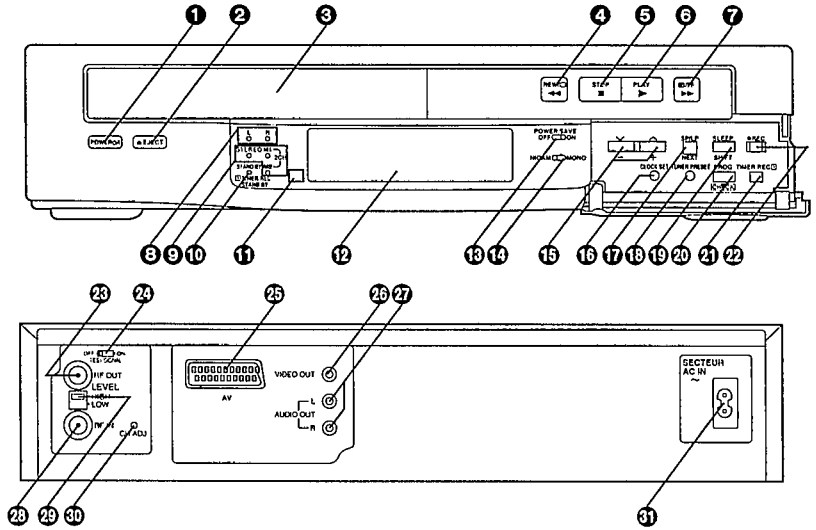
- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

Installing the Batteries



Controls and Connection Sockets

This gives a detailed explanation of the function of each button, switch and connection socket.



1 POWER ⏻/I
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still connected to the mains.

2 EJECT
To eject a video cassette.

3 Cassette Compartment
Insert a video cassette here.

4 REW (REWIND)
In the stop mode: To rewind the tape.
In the playback mode: To search backward.
In the rewind mode: To obtain high speed picture.
"◁◁" is lit.

5 STOP
To stop any playback or recording.

6 PLAY
To start playback. "▷" is lit.

7 FF (FAST FORWARD)
In the stop mode: To fast forward the tape.
In the playback mode: To search forward.
In the fast forward mode: To obtain high speed picture.
"▷▷" is lit.

8 Audio Output Mode Indicators
The Left (L) and Right (R) Indicators show which sound mode is selected in the following way.
Stereo: Both the Left (L) and Right (R) Indicators are lit.
Left: The Left (L) Indicator is lit.
Right: The Right (R) Indicator is lit.
Normal: Both the Left (L) and Right (R) Indicators are not lit.

9 Indicator Lamps for M1, M2 and Stereo Reception
When receiving a TV programme, automatically indicates when a TV programme is broadcast with the NICAM sound system.

10 STAND BY/TIMER REC STAND BY Indicator
Lights up green while the POWER SAVE Switch is at "ON" provided that the VTR is connected to the AC mains power and its power is off.
This indicator lights up red while the timer recording function is on.

11 Infra-red Remote Control Receiver Window

12 Display

13 POWER SAVE
OFF: For normal VTR operation.
Characters appear on the display even when the VTR's power is off.
ON: For operating the VTR in the power-saving mode.
No characters appear on the display when the VTR's power is off.

14 NICAM/MONO
NICAM: Normally set at this position.
MONO: Only set at this position to record the normal sound during a NICAM broadcast or if the stereo sound is distorted due to inferior reception conditions.

15 ∨ ∧/− +
To select the required programme position (TV station).
To set the clock and timer recording.

16 CLOCK SET
To set the time.

17 SP/LP/NEXT
To select the tape speed required for recording.
SP gives the best picture quality.
LP gives the longest recording time.
To proceed to the next item during setting procedure.

18 TUNER PRESET
To initiate TV station settings for the tuner.

19 SLEEP/SHIFT
To set the time to turn off the VTR automatically.
To memorize programme position.

20 PROG/CHECK
To select a timer programme number.
"P1, P2, P3... or P8" is lit.
To display details of preset timer recording while the timer recording function is on.

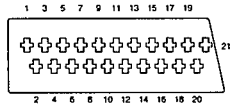
21 TIMER REC
To turn the timer recording function on and off.
⏲ is lit or not lit.
Once Operating timer recording function, the normal VTR operation is not possible unless this button is set to off.

22 REC
To start a recording.

23 RF OUT
To connect to the aerial terminal on a TV set.

24 TEST SIGNAL
The test signal is transmitted on channel 36.

25 AV
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.
This is also called Scart
Peritel
Euro Connector
Euro AV



1 AUIDO OUTPUT CH2 (R)	8 SWITCHING VOLTAGE
2 AUDIO INPUT CH2 (R)	17 VIDEO GROUND
3 AUDIO OUTPUT CH1 (L)	19 VIDEO OUTPUT
4 AUDIO GROUND	20 VIDEO INPUT
6 AUDIO INPUT CH1 (L)	21 GROUND

No connection; 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18

26 VIDEO OUT
To connect a video cable to a TV or another VTR.

27 AUDIO OUT
To connect the sound to a stereo audio system.

28 RF IN
To connect a audio cable to a TV, another VTR or stereo audio system.

29 LEVEL
Used to adjust the UHF aerial signal strength.
HIGH: For normal position.
LOW: If a diagonal pattern or stripes appear on the picture.

30 CH ADJ.
To adjust the RF transmitting channel 30~42.

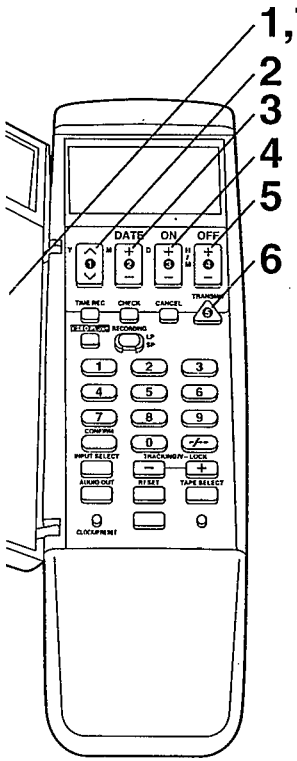
31 AC IN~
To connect to the main power supply.

Setting the Clock of the VTR using the Remote Controller

By setting the time on the remote controller's clock and then by transmitting this setting to the VTR, the clocks on both the remote controller and VTR display the same time.
The built-in digital clock employs the 24-hour system.

Preparation
- Turn on the VTR.
- Install the batteries in the remote controller. See page 11.

For Example:
Date; 16th, October, 1999
Time; 20:15

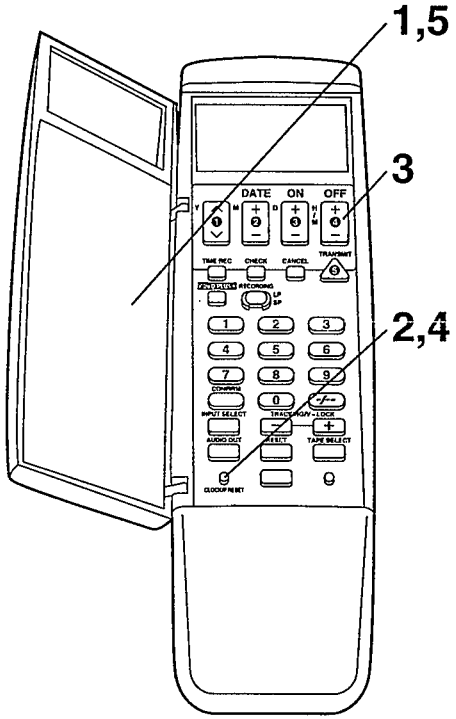


Operations	Display Symbols	
1		Open the door of the remote controller.
2		Set **Year** "99".
3	DATE	Set **Month** "10".
4	ON	Set **Date** "16".
5	OFF	Set **Time** "20:15". •When it is kept pressed, the indication changes in 30-minute steps.
6	TRANSMIT	Press **TRANSMIT**. •The clocks on both the remote controller and VTR now start displaying the same time from 0 second.
7		*Close the door of the remote* controller.

Note:
To change the previous clock setting, press **CLOCK/PRESET** for at least 2 seconds. The previous clock setting will be displayed. Then follow steps **2** to **7** above.

Setting the Brand of your TV in the Remote Controller

Preparation
- Turn on the TV.
- Install the batteries in the remote controller. See page 11.



Brand No.	Manufacturer
1	Panasonic
2	
3	
4	
5	GRUNDIG/Blaupunkt
6	PHILIPS
7	SONY

Operations	Display Symbols
1 Open the door of the remote controller.	
2 Keep **CLOCK/PRESET** pressed for more than 2 seconds and then press it twice. CLOCK/PRESET •"TV" now appears on the remote controller's display.	
3 Press **OFF** several times. OFF •When the brand number matches the make of your TV, the TV is turned off (standby).	
4 Press **CLOCK/PRESET**. CLOCK/PRESET	
5 Close the door of the remote controller.	

How to change the brand number
Each time the "+" side of **OFF** is pressed, the number is counted up by one as follows:

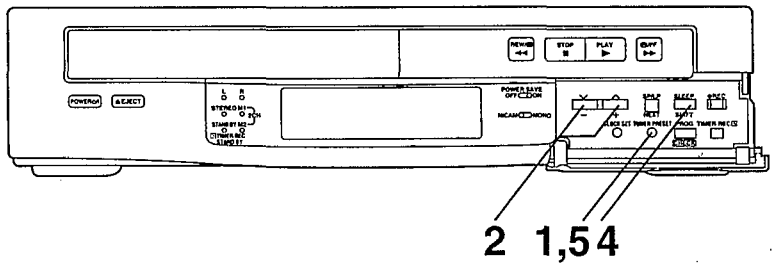
→1→2→3...7→

When the "–" side is pressed, the number is counted down by one in the reverse order to that indicated above.

Note:
Some TV models cannot be operated using this remote controller.

When the brand number is 1, 2, 3 or 4:
When the TV is turned off (standby) in step **3** above, turn it back on and adjust the TV's volume using this remote controller. The volume can be adjusted if the brand number matches the make of TV. If it is not possible to adjust the TV's volume, try setting the brand number (1 to 4) to match the make of TV again until the volume can be adjusted.

Storing TV Broadcasts into your VTR

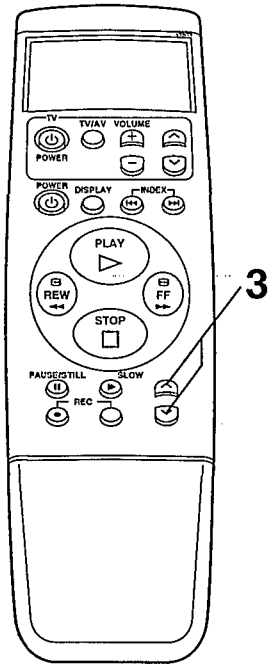


Introduction

The VTR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 42 TV broadcast stations.

Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR and select any programme position except A1.
- Install the batteries in the remote controller. See page 11.



Operations	Display Symbols	
1 TUNER PRESET		Keep **TUNER PRESET** pressed for more than 2 seconds.
2		Search for the TV Station. •If the required station is not displayed, press + or – again.
3		Select programme position.
4 SHIFT		Store the broadcast station. •To store the other stations, repeat steps 2 to 4.
5 TUNER PRESET		Press **TUNER PRESET**.

Note:
While tuning, your VTR may lock onto several weak stations from distant transmitters. Should this occur press + or – again until a strong station is received.

Channel Plan

You should set the programme positions on the VTR to match the remote controller setting, so when using the Video Plus+ programming the correct broadcast station is recorded.
The table below shows the correct setting:

Programme position	TV station
1	BBC1
2	BBC2
3	ITV
4	Channel 4
A1, 5~20	*Satellite input

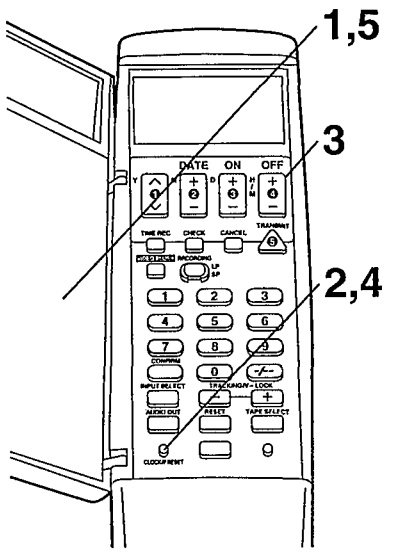
*Satellite input
To receive satellite stations, the satellite receiver must be connected to the VTR and programme position must be set depending on the type of the connection made.
A1: When the satellite receiver is connected to the AV socket
5~20: When the satellite receiver is connected by means of the RF coaxial cable. Follow the tuning procedure on page 16.

Tuning Procedure Using the VTR Only

Stations can be tuned in by following the steps given below.
1 Press **TUNER PRESET** for more than 2 seconds.
2 Search for the TV station by pressing + or –, and then press **NEXT**.
3 Select programme position by using + or –.
4 Press **SHIFT** to memorize the broadcast station.
•To memorize the other stations, press **NEXT** and then repeat steps **2** to 4.
5 Press **TUNER PRESET**.

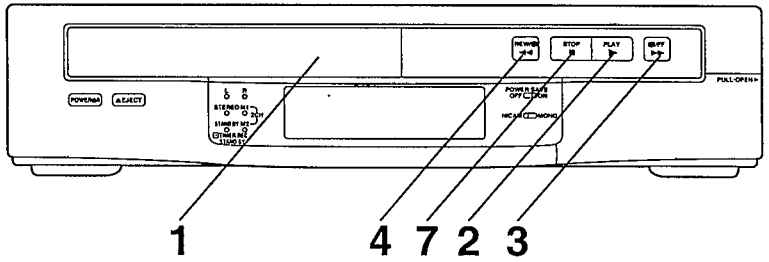
Setting the Satellite Position on the Remote Controller

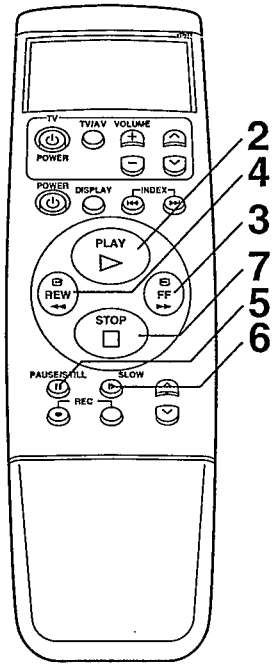
The remote controller must be set to the selected programme position for the satellite receiver, in order to record satellite stations using Video Plus+ programming.
Note:
This remote controller cannot be used to operate a satellite receiver.
Preparation
Set the clock of the remote controller first. See page 14.



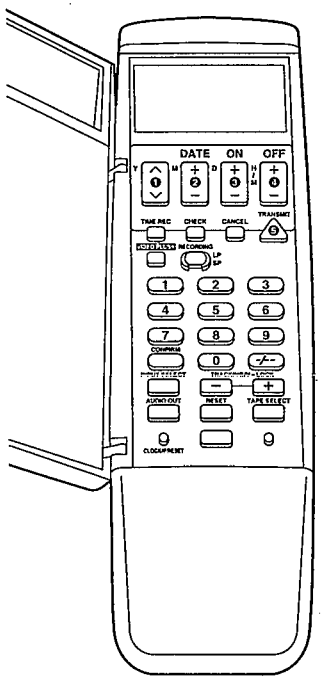
Operations	Display Symbols	
1		Open the door of the remote controller.
2 CLOCK/PRESET		Keep **CLOCK/PRESET** pressed for 2 seconds or more and then press it again.
3 OFF		Select A1 or 5~20.
4 CLOCK/PRESET		Press **CLOCK/PRESET** twice.
5		Close the door of the remote controller.

Playback

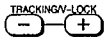




Operations	Display Symbols	
1		Insert a recorded cassette tape.
2 PLAY		Start viewing the picture.
3 FF		Search forward by briefly pressing **FF**. •To change back to normal playback, press **PLAY**.
4 REW		Search backward by briefly pressing **REW**. •To change back to normal playback, press **PLAY**.
5 PAUSE/STILL		View a still picture. •To continue the normal playback, press **PLAY** or **PAUSE/STILL**.
6 SLOW		View the slow motion picture. •To continue the normal playback, press **PLAY**.
7 STOP		Stop viewing the picture.



To adjust the tracking and the vertical locking



For manual tracking adjustment
The + and – buttons are used to adjust the tracking when, for example, noise bars on the picture are better removed manually than by the automatic digital tracking control. Press both buttons together to return to automatic digital tracking control.

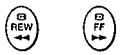
For slow tracking adjustment
When noise bars appear during Still or Slow playback, switch over to slow playback and adjust with the + or – button to reduce the noise bars.

For vertical locking adjustment
Use the + and – buttons to minimize any vertical jitter during still-picture playback.

Other Playback Functions

To obtain High Speed Picture during Fast Forward or Rewind

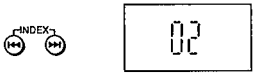
Keep **FF** pressed during fast forward.
Keep **REW** pressed during rewind.



To find the Beginning of Each Recording

Recording Index Signals
Index signals are recorded in following cases.
•When a recording is started by pressing **REC**.
•When **REC** is pressed during recording.
•When timer recording is activated.

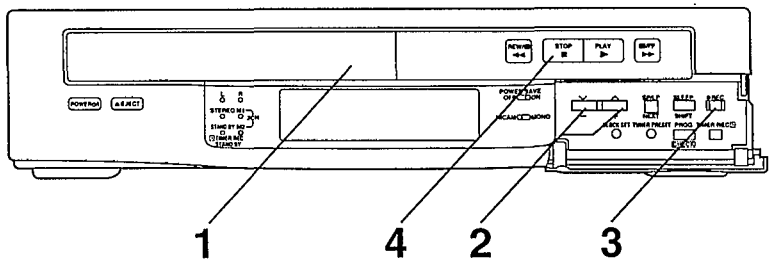
For example:
Searching for the 2nd recorded segment in the forward direction.
Press **INDEX ▶▶|** twice during playback or stop mode.

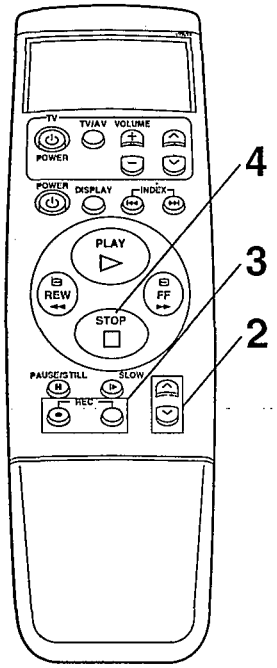


•After finding the specific recorded segment, playback starts automatically.
•For the reverse direction, press **INDEX |◀◀**.
•Up to 20 programmes can be searched for in both directions.
•When the incorrect numerical data has been entered, press **STOP** and enter the correct data.
•The figure on the display is decremented by 1 each time an index signal is located. Bear in mind that the display will be decremented in this way even while either **INDEX** button is being pressed.
•The INDEX search function can only work correctly, if the index signals are spaced at least 3 minutes apart in the SP mode and 5 minutes apart in the LP mode.

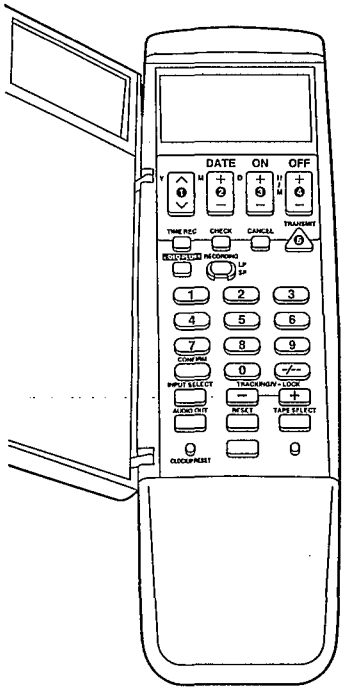
Notes:
•Cue, review or slow playback will be automatically released after 10 minutes, and still playback after 5 minutes.
•Even after manual adjustment, noise bars or vertical jitter may not be eliminated completely. Especially for tapes recorded on another VTR this is not a malfunction.

Manual Recording





Operations	Display Symbols	
1		Insert a cassette tape. •If it has already been inserted, press **POWER** to turn the VTR on.
2		Select TV station.
3	REC	Start recording.
4	STOP	Stop recording.

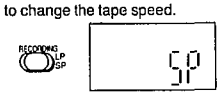


Notes:
- When a video cassette with a broken off tab is inserted, the "📼" indication will flash to indicate that recording is not possible.
- The recording pause mode will be automatically released after 5 minutes, and reset to the stop mode.

To select the Desired Tape Speed

1 Press **RECORDING SP/LP** to display the tape speed indicator.

2 Keep **RECORDING SP/LP** pressed for more than 2 seconds to change the tape speed.



SP gives the best picture quality.
LP gives the longest recording time.

To interrupt Recording

Press **PAUSE/STILL** during recording.
Press again to continue recording.

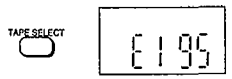
To record One TV Programme while Viewing Another Programme

1 Refer to the manual recording operations steps 1 to 3 (page 22).

2 Select the TV programme on your TV set you wish to view at the present time.

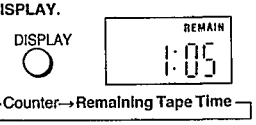
To display the Approximate Remaining Tape Time

1 Press **TAPE SELECT** to select the corresponding cassette tape length.



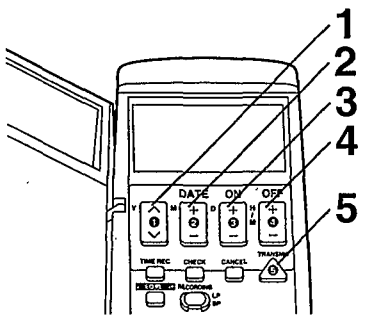
E195: For E30, -60, -80, -120, -180 and -195 tapes.
E240: For E240 tape.
E260: For E260 tape.

2 Press **DISPLAY**.



→Clock→Counter→**Remaining Tape Time**→

Using the Remote Controller



For Example:

Programme position (channel); 2
Date; 27th, October
Starting time; 20:02
Ending time; 21:30

Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Open the door of the remote controller.

Operations	Display Symbols
1 Set Programme position (channel) "2".	
2 Set Date "27".	
3 Set Starting time "20:02".	
• When it is kept pressed, the indication changes in 30-minute steps.	
4 Set Ending time "21:30".	
5 Press **TRANSMIT**.	
• The VTR will be in Timer recording standby mode.	
6 Close the door of the remote controller.	

Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV socket, select the A1 indicator in step 1 for the programme position.

Selecting the Desired Tape Speed

Press **RECORDING SP/LP** in any of steps **2–4**.

Checking a Timer Programme

- The timer recording indicator "⏲" is lit.

Press **CHECK** *repeatedly until the desired timer programme number is displayed.*

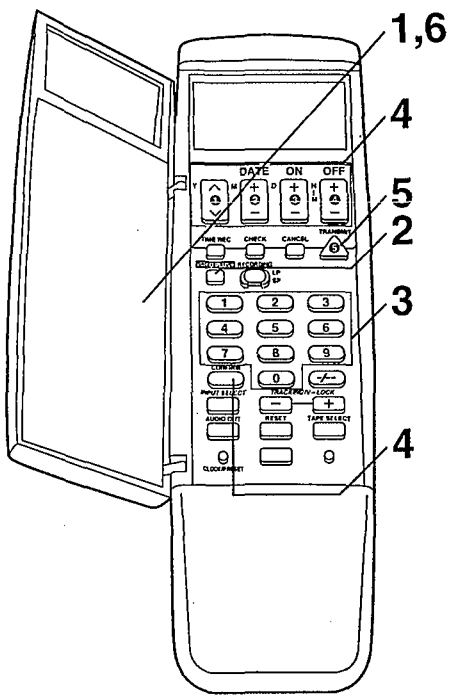
Cancelling a Timer Programme

1 Press **CHECK** repeatedly until the desired timer programme number is displayed.

2 Press **CANCEL**.

Programming the Video Plus+ PlusCode

Programming is now easier than ever: simply enter the PlusCode provided in the programme schedule column carried by newspapers and magazines.
PlusCodes are numbers which are assigned to each programme listed in the TV programme schedule carried in newspapers and TV guides. When these codes are entered and **TRANSMIT** is pressed, the codes are converted into the actual programming and sent to the VTR.



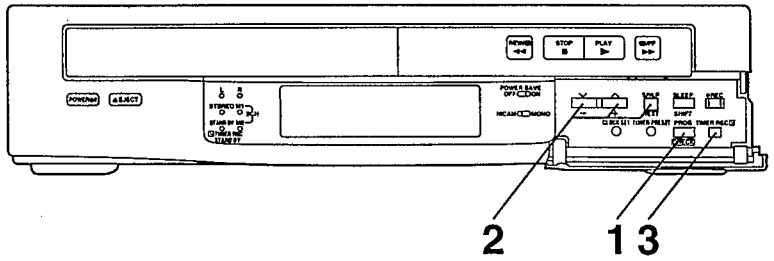
Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Set the programme positions on both the VTR and remote controller as shown on pages 16–17.

Operations	Display Symbols
1 Open the door of the remote controller.	
2 Press **VIDEO PLUS+**.	
3 Enter a PlusCode. Example: 920216	
4 Press **CONFIRM** to check that the code corresponds to the right programme.	
• *To make any alterations, use buttons* ❶~❹.	
5 Press **TRANSMIT**.	
• The VTR will be in Timer recording standby mode.	
6 Close the door of the remote controller.	

Notes:

- To select the desired tape speed, press **RECORDING SP/LP** in any of steps **3–4**.
- When the PlusCode is used for programming, the recording time may be slightly longer than the actual programme time.
- Repeat steps **2** to **4** if "Err" appears on the display of the remote controller.
- When programming two or more programmes, repeat steps **2** to **5** after pressing **TRANSMIT**.
- The procedures for checking and canceling whatever has been programmed are the same as for remote control programming.



Preparation
Insert a cassette tape with an intact erasure prevention tab.

For Example:
Timer programme number; 1
Programme position (channel); 2
Date; 27th, October
Starting time; 20:02
Ending time; 21:30
(present date; 16th October)

Operations	Display Symbols	
1 PROG / CHECK ➡ NEXT	P 1	Select **Timer Programme number** "1", and then press **NEXT**. P1 – – – – – –: When nothing is programmed P1 : When something has already been programmed
2 Set each item by pressing + or – and **NEXT**.		
	2	Set **Programme position** (channel) "2".
– +	27	Set **Date** "27".
	ON 20:15	Set **Starting time** (hour) "20".
⬇	ON 20:02	Set **Starting time** (minute) "02".
	OFF 21:02	Set **Ending time** (hour) "21".
NEXT	OFF 21:30	Set **Ending time** (minute) "30". •There is no need to press **NEXT**.
3 TIMER REC		To activate timer recording, press **TIMER REC.**

Timer Recording from External Signal Source
If Timer Recording is performed by a unit connected to the AV socket, select the A1 indicator for the programme position.

Selecting the Desired Tape Speed
After step **2**, press **NEXT** and select SP or LP by pressing + or –.

Setting other Programmes in Succession
Repeat steps **1** and **2**.

Checking a Timer Programme
Select the timer programme number to be checked by pressing **PROG/CHECK** while the timer recording function is on.

Cancelling a Timer Programme
1 Release from the standby mode by pressing **TIMER REC.**

2 Select the timer programme number to be canceled by pressing **PROG/CHECK.**

3 Press + and – simultaneously for more than 3 seconds.

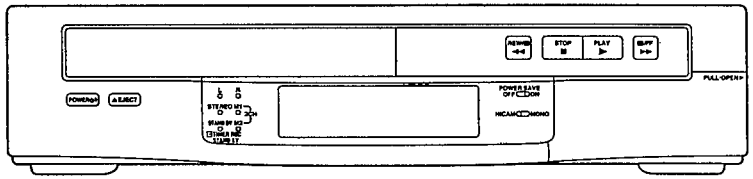
Note:
If a timer recording is not performed to the end (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 a.m. two days later.
However, if the Timer Record Function is activated at that time, the programmed timer recording data will be cancelled at 4 a.m. the next day.

Optional Function

PDC (Programme Delivery Control)
The Programme Delivery Control (PDC) is a very convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted and, for example, some special news are inserted, the recording will also be interrupted automatically and resumed when the programme continues.

- This model is not equipped with PDC function. The PDC function becomes operative when the VTR is equipped with the optional PDC decoder. Consult your authorized video dealer.
- If the VTR is equipped with the PDC decoder, the PDC indicator lights when the correct PDC signals are transmitted from the broadcasting station.
- When the unit is set for programmed recording, the PDC indicator lights whether or not PDC signals are transmitted. This indicates that the recording has been programmed with PDC. To programme a recording without PDC, press **SHIFT** in step **2**: this cancels the PDC function and turns off the PDC indicator.
  If this is not done, recording start time may be delayed by up to 1-minute from the programmed start time. This is not a malfunction.
- In the case of PDC recording, use the **correct** time (PDC time) for recording the TV programmes. PDC recording is not performed when the time (PDC time) is incorrect, even if only by one minute, i.e. start time as published TV programme guide in newspaper, magazine, teletext, etc.
- Since PDC signals are received when a recording is programmed using PDC, the power of the unit's tuner section is turned on and the programmed broadcasting is received. When a multiple number of programmes have been programmed for timer recording, all of the broadcasts concerned will be received in sequence. These broadcast pictures can be seen on the video playback channel and AV out (no sound).
- If the actual broadcasting times of timer recordings overlap (regardless of whether they are PDC-controlled), the recording that starts first has always priority, and the recording of the later beginning programme will start only after the first timer recording has finished.
- When the PDC signal drops out because the broadcast signal is weak, or when a broadcasting station does not transmit a regular PDC signal, the timer recording will be performed in the normal mode (without PDC) even if it was programmed for PDC.
  In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time but at 4 a.m. on the following day.
- When programmes aired by different TV stations are programmed by PDC at a time when one programme ends as another starts, the first minute at the start of the second programme will not be recorded.

The NICAM Broadcast System



NICAM is a 2 Channel sound broadcast system to provide either a high quality stereo sound track or 2 independent MONO sound tracks, M1 and M2.

NICAM programmes are always accompanied by standard sound broadcasts and you can select the desired sound with **NICAM/MONO** (when recording) or with **AUDIO OUT** (when playback).

The NICAM digital stereo sound can only be recorded on the Hi-Fi audio track.

When a stereo, dual-soundtrack or mono NICAM programme is being received, the indicators are lit to inform you of the type of broadcast.

Reception of a NICAM Stereo Broadcast

When the STEREO indicator is lit, set **NICAM/MONO** to NICAM to be able to record on the Hi-Fi sound track in stereo.
The Audio cable or the 21 pin scart cable must also be connected to a stereo TV in order to hear the NICAM sound in stereo.

Reception of a NICAM Dual-Sound Broadcast

When the M1 and M2 indicators are lit, set **NICAM/MONO** to NICAM if you want to record both channels on the Hi-Fi sound track. M1 is the left-hand channel and M2 is the right-hand channel.

Reception of a NICAM Monaural Broadcast

When a NICAM monaural broadcast is being received, only the M1 indicator is lit. To hear such a signal on both channels and to record it on both channels of the Hi-Fi track, set **NICAM/MONO** to NICAM.

- To record the regular sound (ordinary normal sound) on the FM audio tracks when a NICAM programme is received, set **NICAM/MONO** to MONO.

Important Note for the NICAM System:
When this VTR tuner is switched on, it will automatically switch to a NICAM broadcast, if NICAM is being transmitted. During test transmissions, it is possible that the sound received doesn't correspond to the picture being viewed. In order to receive a synchronized sound and picture, select monaural sound with either **AUDIO OUT** or with **NICAM/MONO**. This will only apply until NICAM transmissions are fully operational.
At this time the NICAM signal is transmitted on stereo channels only, since the M1 and M2 formats are not yet available. Even if the soundtrack is in MONO the stereo indicator will remain illuminated.

Editing

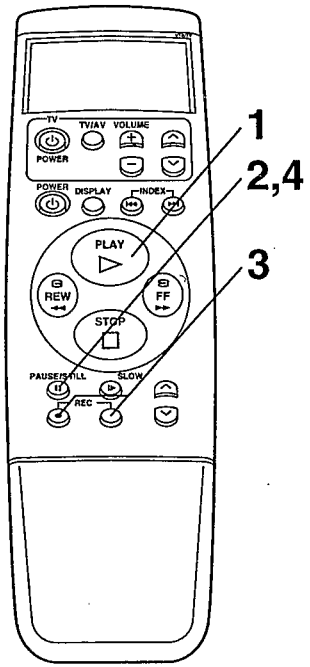
Assembly Editing

This function can be used to make up an edited tape from other recordings or video sources.

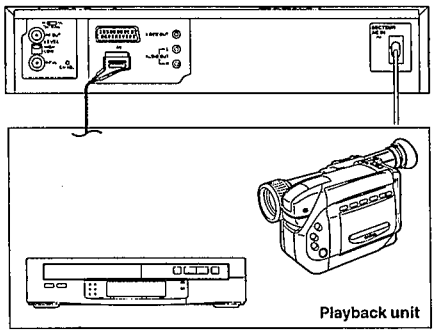
A new scene can be added to the end of a previous one.

Preparation

- Connect a movie camera or another VTR to this VTR as shown.
- Insert a recorded cassette tape with an intact erasure prevention tab.
- Select the video source required by pressing **INPUT SELECT** to set A1.



Recording VTR



Operations

1 Search for the end of the previous recording.

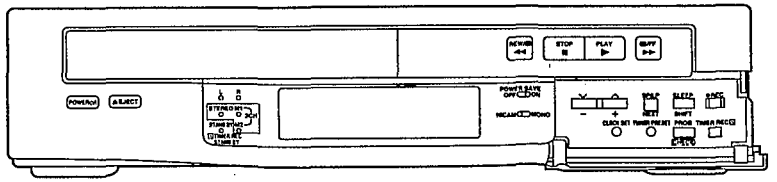
2 Press **PAUSE/STILL**.

3 Set for the new recording by pressing **REC**.

4 Start the new recording by pressing **PAUSE/STILL** again.

Notes:
- The new sound will be recorded on both the normal and Hi-Fi sound tracks.
- Normal sound track is only for recording mono sound.

Other Functions



Automatic VTR Functions

Automatic Playback
When a cassette without an erasure prevention tab is inserted, the VTR starts playback automatically.

VTR-off Playback
When the VTR is off, an inserted cassette can be played back by pressing **PLAY**.

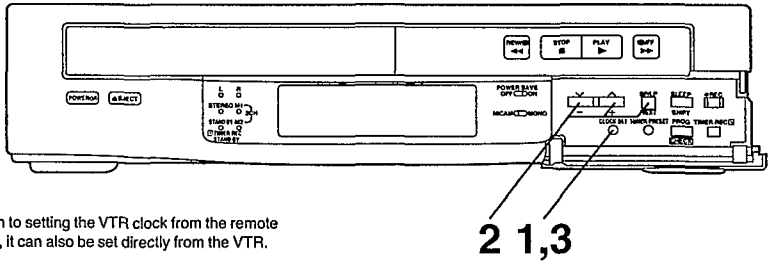
Automatic Rewinding
When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection
When the VTR is switched off, an inserted cassette can be ejected simply by pressing **EJECT**. The VTR will eject the cassette and automatically turn itself off again.

Automatic VTR Off Time Setting
Press **SLEEP** for the desired time.

- Up to 9 hours of sleep time can reset.
- Each press gives a 30 minutes time span internal.
- To cancel the setting time, press **SLEEP** repeatedly to set 0:00.

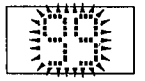
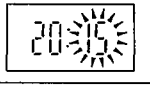
Setting the Clock of the VTR



In addition to setting the VTR clock from the remote controller, it can also be set directly from the VTR.

Preparation
Turn on the VTR.

For Example:
Date; 16th, October, 1999
Time; 20:15

Operations	Display Symbols	
1 CLOCK SET		Keep **CLOCK SET** pressed for more than 2 seconds.
2 Set each item by pressing + or – and **NEXT**.		
– +		Set **Year** "99".
		Set **Month** "10".
⬇		Set **Date** "16".
		Set **Hour** "20".
NEXT		Set **Minute** "15". • There is no need to press **NEXT**.
3 CLOCK SET		Press **CLOCK SET**. • The clock will start.

Time Reset Function
If the clock is less than two minutes slow or fast, it can easily be reset to the proper time.
For example: Resetting the clock to 12:00.00.
1 Press **CLOCK SET** at any time between 11:58.00 and 12:01.59 for more than 2 seconds.
2 Press **CLOCK SET** again as soon as you hear the 12:00.00 time signal.

Note:
The clock operates for up to 60 minutes by its backup system in the event of power failure.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

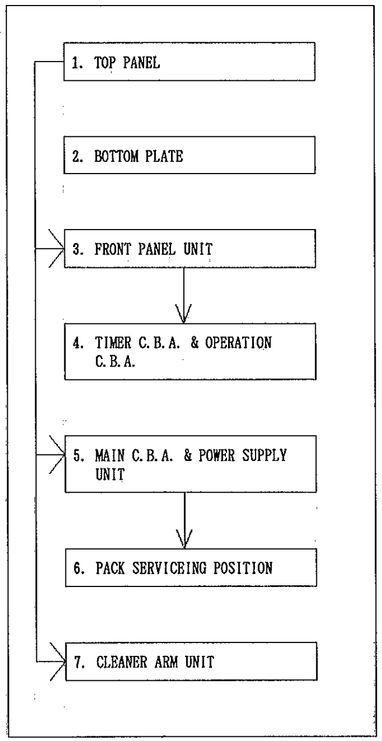

1. TOP PANEL
2. BOTTOM PLATE
3. FRONT PANEL UNIT
4. TIMER C.B.A. & OPERATION C.B.A.
5. MAIN C.B.A. & POWER SUPPLY UNIT
6. PACK SERVICEING POSITION
7. CLEANER ARM UNIT

Fig. D1

1. REMOVAL OF THE TOP PANEL

Remove.....4 Screws(A)

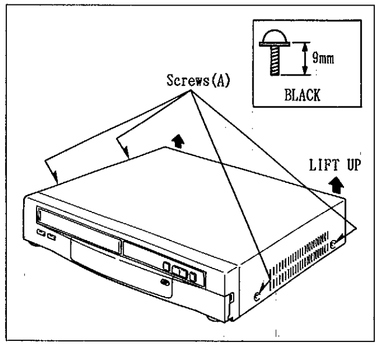


Fig. D2

2. REMOVAL OF THE BOTTOM PLATE

Remove.....6 Screws(B)

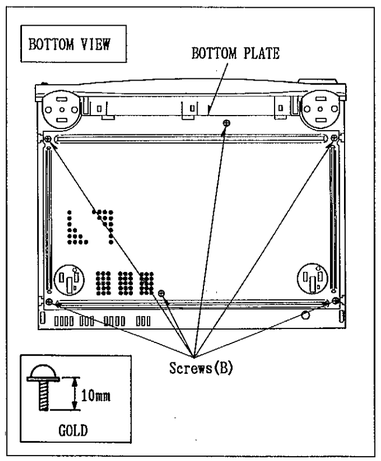


Fig. D3

3. REMOVAL OF THE FRONT PANEL UNIT

Remove.....Screw(C)
Unlock.....8 Tabs(D)

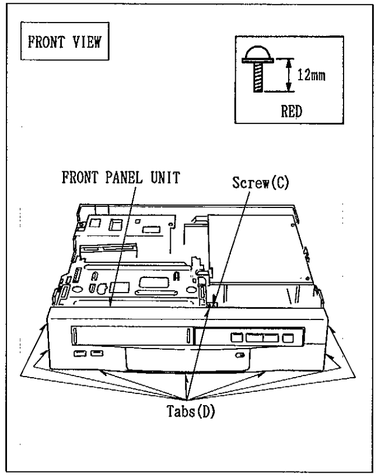


Fig. D4

4. REMOVAL OF THE TIMER C.B.A. & THE OPERATION C.B.A.

Unlock.....8 Tabs(E)

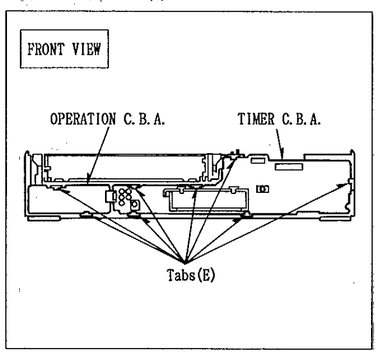


Fig. D5

5. REMOVAL OF THE MAIN C.B.A. & THE POWER SUPPLY UNIT

REMOVAL OF THE MAIN C.B.A.
Remove.....2 Screws(F)
Remove.....3 Screws(G)
Unlock.....Tab(H)

REMOVAL OF THE POWER SUPPLY UNIT
Remove.....2 Screws(I)
Remove.....Screw(J)

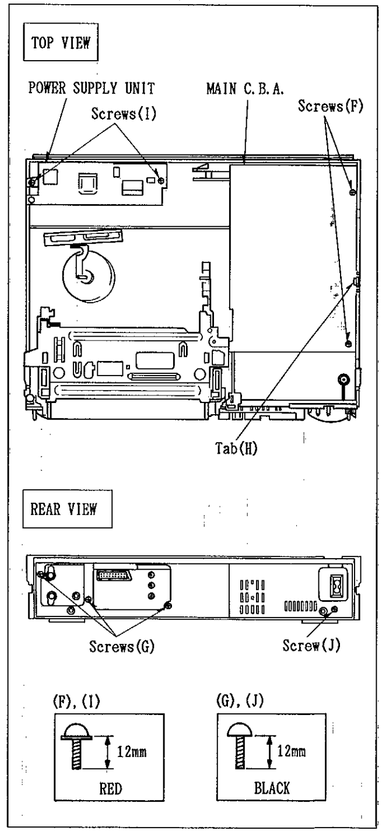


Fig. D6

6. PACK SERVICING POSITION

CAUTION:
Confirm the isolation between Mechanical Chassis and Main C.B.A. before connecting Main AC.

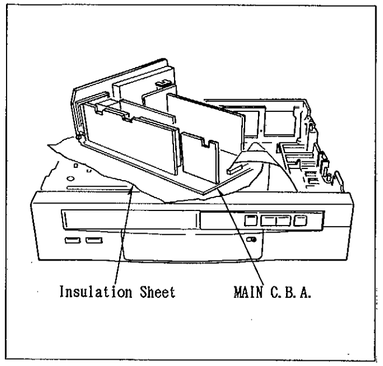


Fig. D7

7. REMOVAL OF THE CLEANER ARM UNIT

Unlock.....Tab(K)

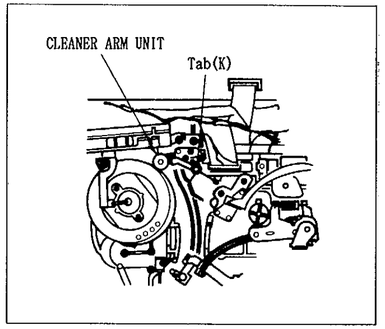


Fig. D8

2-2. MECHANICAL ADJUSTMENT PROCEDURES

The mechanical cahssis of this model is the K-Mechanical Chassis.
Therefore refer to the Service Manual for K-Mechanical Chassis. (Order No. VRD9307M131)

CAUTION:
To make a adjustment mode for Tape Interchangeability, connect a jumper wire which has been cut as shown in Fig. M1.
(Auto Tracking is turned off)
After finishing the adjustment, disconnect the jumper wire.

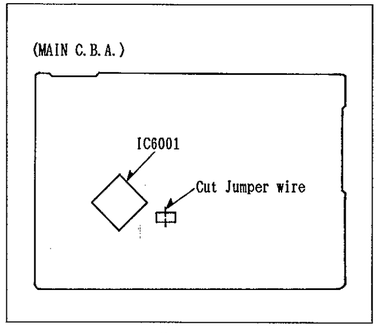


Fig. M1

2-3. DISASSEMBLY PROCEDURES OF MECHANISM

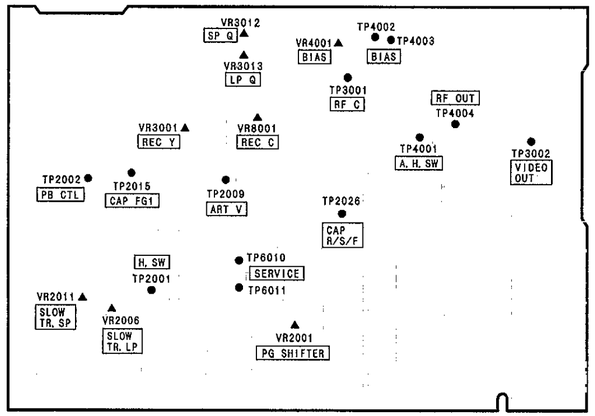
The mechanical chassis of this model is the K-Mechanical Chassis.
Therefore refer to the Service Manual for K-Mechanical Chassis. (Order No. VRD9307M131)

2-4. ASSEMBLY PROCEDURES OF MECHANISM

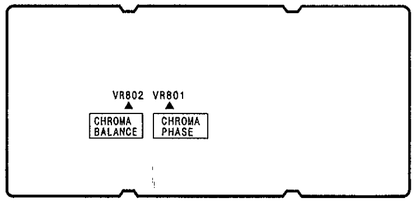
The mechanical chassis of this model is the K-Mechanical Chassis.
Therefore refer to the Service Manual for K-Mechanical Chassis. (Order No. VRD9307M131)

LOCATION OF TEST POINTS & CONTROLS

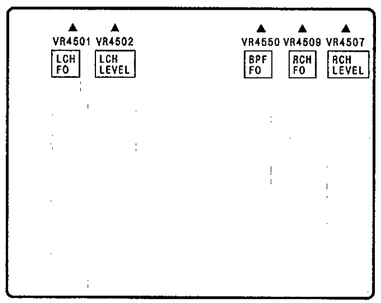
MAIN C.B.A.



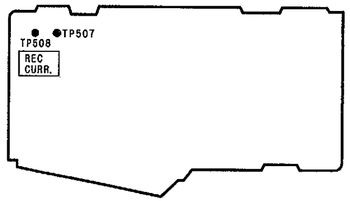
LUMINANCE & CHROMINANCE PACK C.B.A.



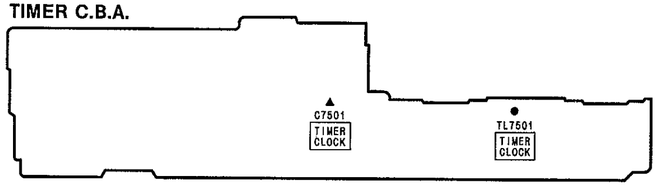
Hi-Fi AUDIO PACK C.B.A.



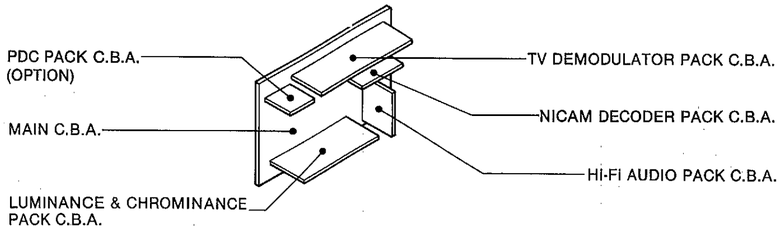
HEAD AMP C.B.A.

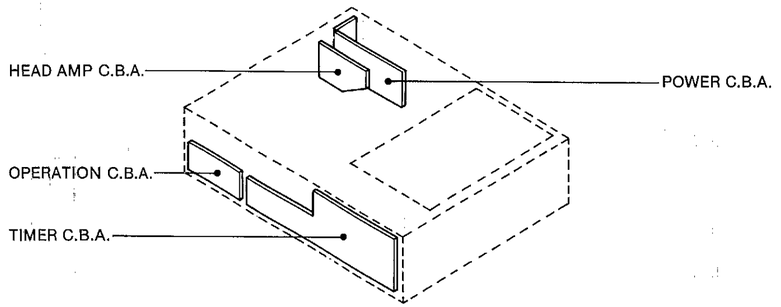


TIMER C.B.A.



CIRCUIT BOARD LAYOUT





2-5. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete adjustment procedures required for electric circuits of VHS Video Cassette Recorders.

2-5-1. TEST EQUIPMENT
To perform electrical adjustments following equipment is required.

1. Dual-Trace Oscilloscope. (More than 35 MHz)
   Voltage Range:0.005-5V/div
   Frequency Range:DC-35MHz
   Probes:10:1 OR 1:1
2. Frequency Counter.
   Frequency Range:0-10MHz
   Probes:1:1
3. Universal Counter.
4. Vacuum Tube Volt Meter. (V.T.V.M.)
5. Video Sweep Generator.
6. Sine Wave Generator.
7. Video Pattern Generator.
8. VHS Alignment Tape. (VFJ8125H3F)
9. VHS Blank Tape.
10. Monitor.
11. Plastic Tip Driver.
12. DC Power Supply.

2-5-2. PREPARATION
During adjustment, set each selector as follows: when no indication in the procedure.

TEST SIGNAL SW (REAR).....OFF
POWER SAVE SW.....OFF
TAPE SPEED.....SP
NICAM/MONO SW.....NICAM

2-5-3. HOW TO READ ADJUSTMENT PROCEDURES

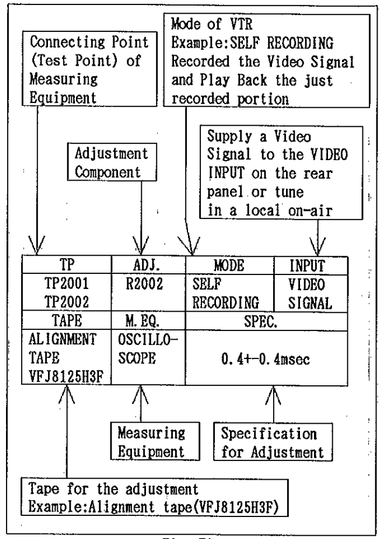


Fig. E1

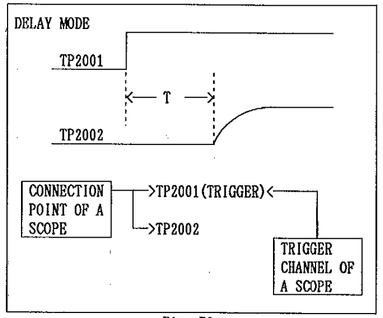


Fig. E2

SERVO SECTION

2-5-4. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 (TEST LAND) VIDEO OUT	VR2001	PLAYBACK	
TAPE	M. EQ.	SPEC	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	7.0+-0.5(H)	

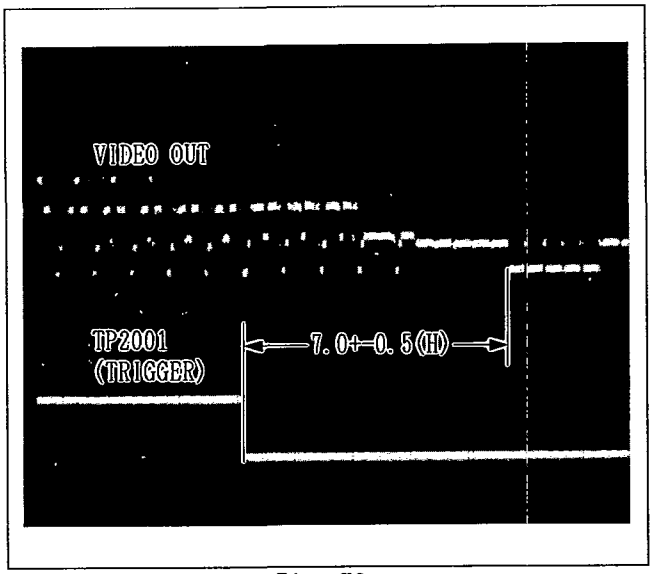


Fig. E3

2-5-5. SLOW TRACKING ADJUSTMENT

TP	ADJ.	MODE	INPUT
MONITOR SCREEN	VR2011 (SP) VR2006 (LP)	(SELF RECORD) SLOW	CCIR PATTERN
TAPE	M. EQ.	SPEC	
BLANK TAPE	MONITOR TV	Noise bar on the monitor screen is minimized. (Shown in Fig. E5)	

Note: 1. Before this adjustment, connect a jumper which has been cut as shown in Fig. E4.
2. After this adjustment, disconnect a jummper wire.

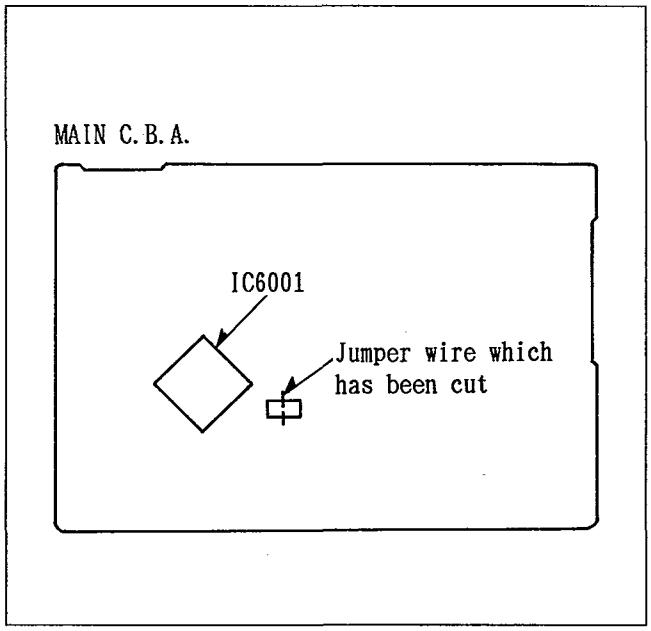


Fig. E4

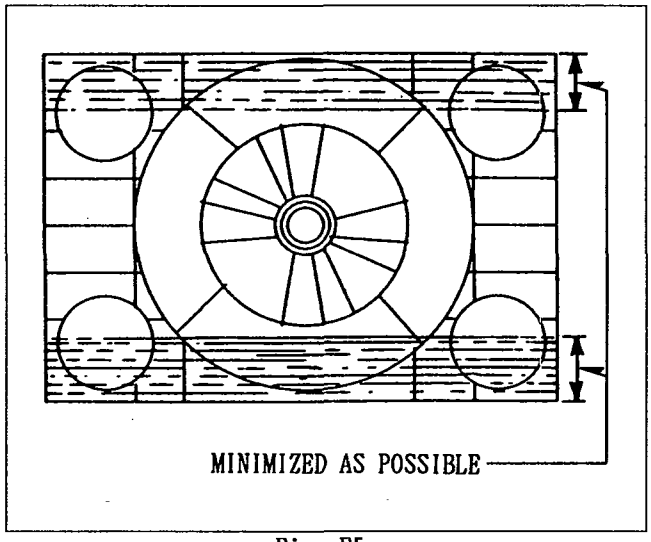


Fig. E5

LUMINANCE & CHROMINANCE SECTION

2-5-6. RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR3001(Y) VR8001(C)	SP RECORDING	PAL COLOUR BAR
TAPE	M. EQ.	SPEC	
BLANK TAPE	OSCILLO- SCOPE	Y=130+-5(mVp-p) C=32+-2 (mVp-p)	

Note:1. Adjust the Luminance level so that the peak level of V-SYNC is 130+-5mVp-p.
2. When adjusting the Chrominance level, Supply +5V DC to Pin 6 of PP3001 (TL3004) to eliminate Luminance component.

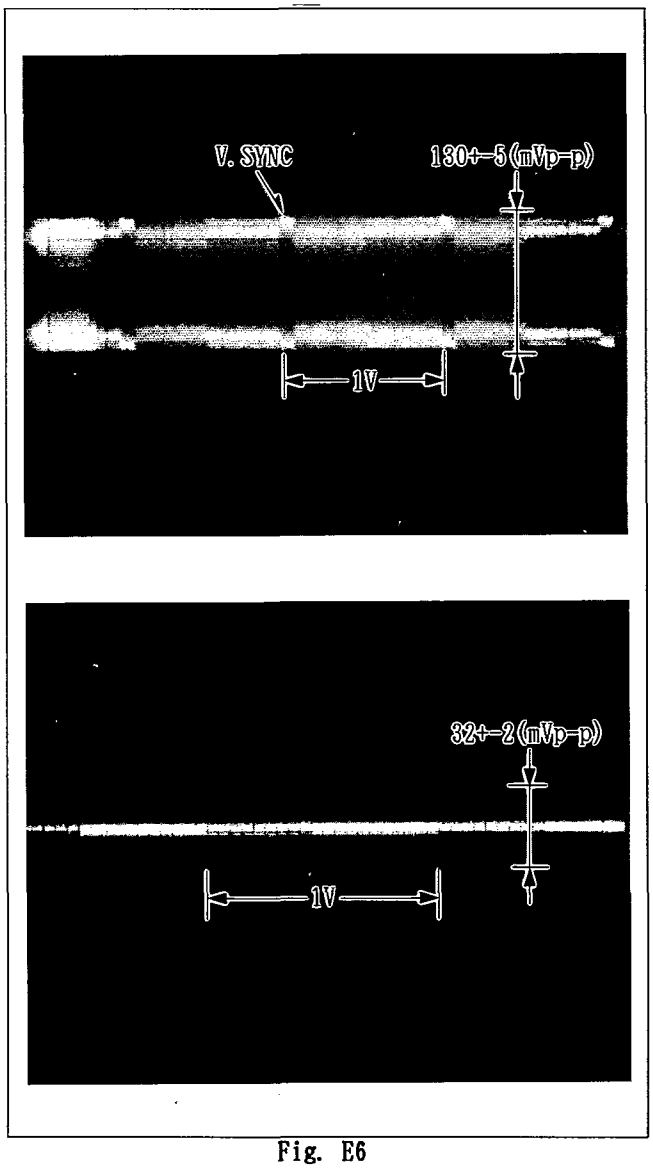
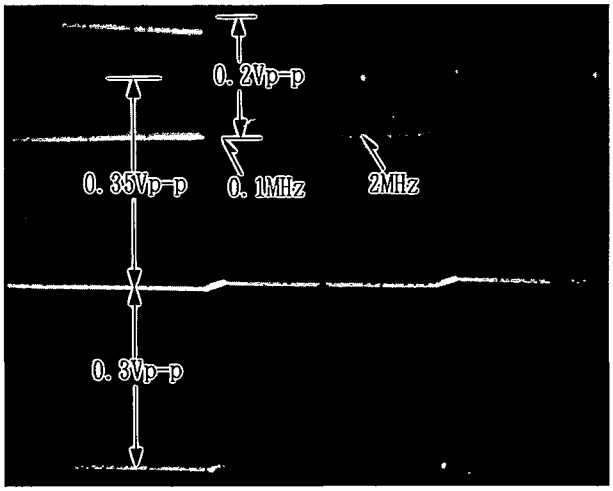


Fig. E6

2-5-7. VIDEO FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3012 (SP) VR3013 (LP)	SP/LP (SELF RECORD) PLAYBACK	VIDEO SWEEP SIGNAL (Shown in Fig. E7)
TAPE	M. EQ.	SPEC	
BLANK TAPE	OSCILLO- SCOPE/ VIDEO SWEEP GENERATOR	SP:0+-1(dB) (90-110%) LP:0+-1(dB) (90-110%)	

Note:1. Set the Video Sweep Signal as shown in Fig. E7.
2. Supply 5.05+-0.15V DC to TL2033 through the resistor(1Kohm).
3. Supply 5.05+-0.15V DC to TL2034 through the resistor(68Kohm).



CONDITION:BURST SIGNAL OFF
75 ohm TERMINATED

Fig. E7

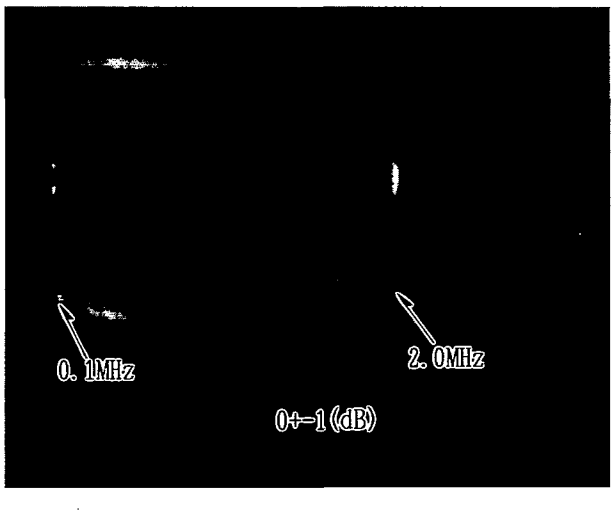
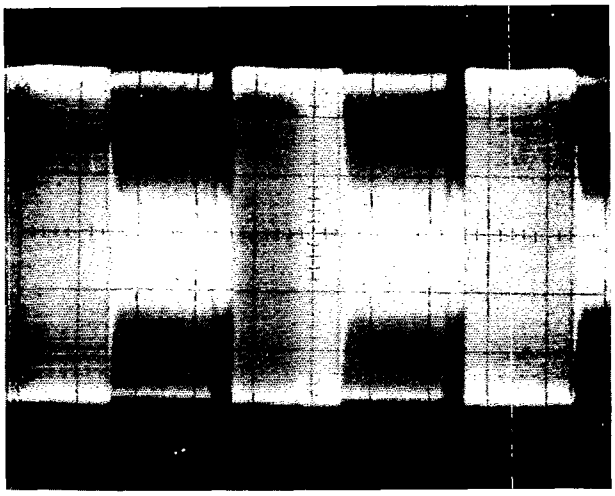


Fig. E8

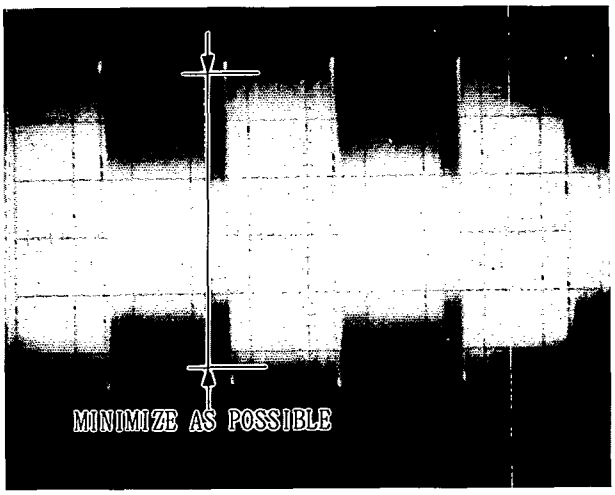
2-5-8. CHLOMINANCE RECURSIVE ADJUSTMENT.

TP	ADJ.	MODE	INPUT
IC301-17	VR801 VR802	(SELF RECORD) PLAYBACK	PAL COLOUR BAR
TAPE	M. EQ.	SPEC	
BLANK TAPE	OSCILLO-SCOPE	MINIMIZE AMPLITUDE	



Before adjustment

Fig. E9



After adjustment

Fig. E10

AUDIO SECTION

2-5-9. BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002(HOT/ TEST LAND) TP4003(GND/ TEST LAND)	VR4001	RECORDING	
TAPE	M. EQ.	SPEC	
BLANK TAPE	V. T. V. M.	2. 4+-0. 1(mVrms)	

Note:1. Connect the Audio Input and GND.

2-5-10. CARRIER FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4501-34(L) (TL4515) IC4501-47(R) (TL4516)	VR4501(L) VR4509(R)	SP RECORDING	
TAPE	M. EQ.	SPEC	
BLANK TAPE	FREQUENCY COUNTER	L:1. 4+-0. 003(MHz) R:1. 8+-0. 003(MHz)	

2-5-11. DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
BETWEEN VR4502 and R4511(L) BETWEEN VR4507 and R4561(R)	VR4502(L) VR4507(R)	SP RECORDING	SINEWAVE (1KHz, -10dB) AUDIO IN (L), (R)
TAPE	M. EQ.	SPEC	
BLANK TAPE	V. T. V. M. / SINEWAVE GENERATOR	120(mVrms)	

Note:1. Before recording the sinewave, set the Signal Gnerator until the both audio outputs (L) and (R) are 400mVrms.

2-5-12. FM B.P.F. ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4501-33(L) (TL4517) IC4501-48(R) (TL4518)	VR4550	PLAYBACK	1.608MHz/400mVp-p SINEWAVE SIGNAL (PS4003-8)
TAPE	M.EQ.	SPEC	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE/ SINEWAVE GENERATOR	Lch(IC4501-33) = Rch(IC4501-48)	

Note:1. Disconnect P501(from Main C.B.A. to Head Amp Pack)
2. Supply the sinewave signal (1.608MHz/400mVp-p) to PS4003-8.
3. After this adjustment, connect P501.

TIMER SECTION

2-5-13. TIMER REFERENCE CLOCK ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL7501	C7501	STOP	
TAPE	M.EQ.	SPEC	
	UNIVERSAL COUNTER	7812.5+-0.015(usec)	

SECTION 3
BLOCK DIAGRAMS

3-1. ABBREVIATIONS

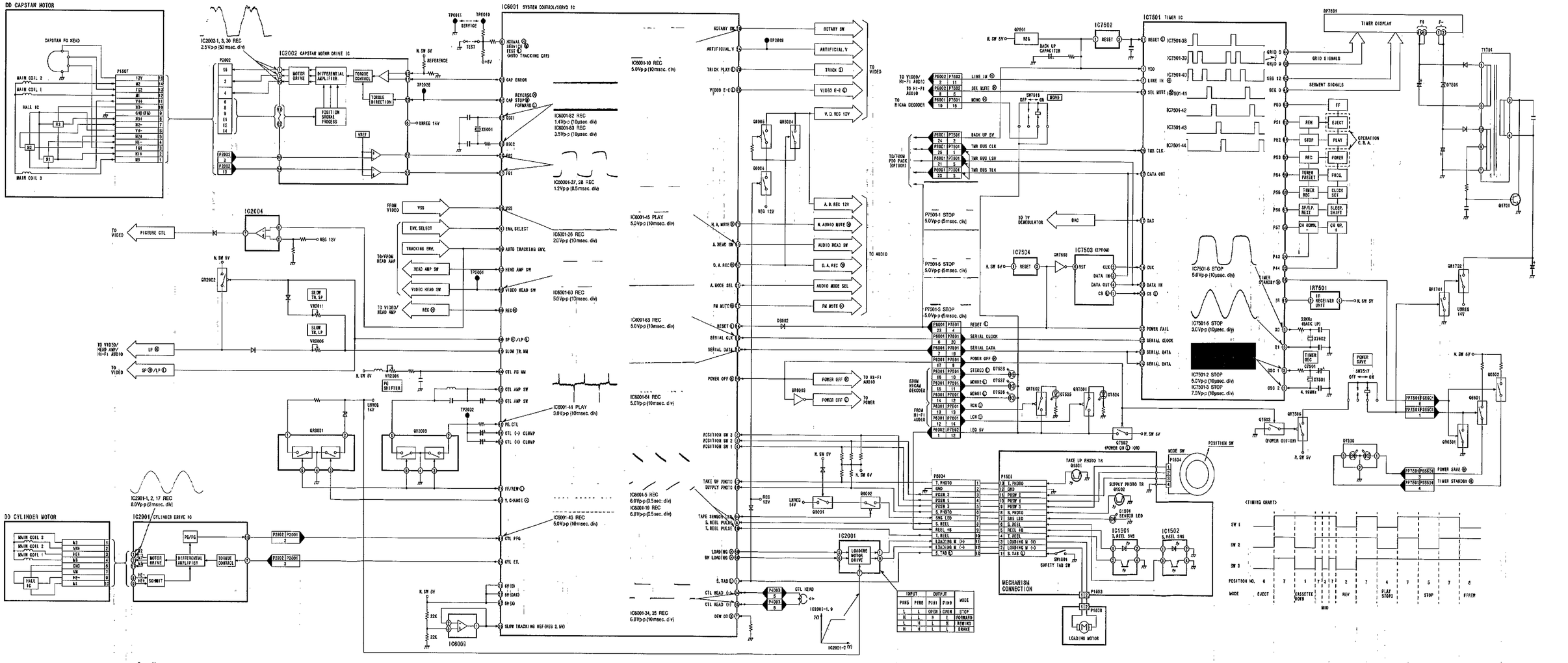
443NT [L]	4.43 NTSC Ⓒ
A. COMP	AUDIO COMPONENT SIGNAL
A. COMPO	AUDIO COMPONENT SIGNAL
A. D.P [L]	AUDIO DUBBING PAUSE Ⓛ
A. D/L [L]	AUDIO DUBBING PAUSE Ⓛ
A. DEF [S]	AUDIO DEFEAT
A. DEF [S] [L]	AUDIO DEFEAT
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ
A. DUB [H]	AUDIO DUBBING Ⓡ
A. ERASE	AUDIO ERASE
A. H. SW	AUDIO HEAD SWITCHING PULSE
A. HEAD [R]	AUDIO HEAD (REC)
A. HEAD [W]	AUDIO HEAD (PLAY)
A. IN [L]	AUDIO INPUT (L)
A. IN [R]	AUDIO INPUT (R)
A. MUT [H]	AUDIO MUTE Ⓡ
A. MUTE [H]	AUDIO MUTE Ⓡ
A. OUT [L]	AUDIO OUTPUT (L)
A. OUT [R]	AUDIO OUTPUT (R)
A. RF OUT	AUDIO RF SIGNAL OUTPUT
A/VS/S. DATA	AV SW/SERIAL DATA
AC ONLINE	AC ONLINE
AC. O/EE. H	AC ONLINE/EE Ⓡ
AFC S C	AFC S CURVE
AFC [S]	AFC S CURVE
AFC. DEF	AFC DEFEAT
ARFC OUT	AUDIO RF SIGNAL OUTPUT
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL Ⓜ/NORMAL
AT. V/H/N.	ARTIFICIAL VERTICAL SYNC SIGNAL
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE
AUDIO IN [L]	AUDIO INPUT (L)
AUDIO IN [R]	AUDIO INPUT (R)
AUDIO OUT [L]	AUDIO OUTPUT (L)
AUDIO OUT [R]	AUDIO OUTPUT (R)
AUDIO SELECT [H]	AUDIO SELECT Ⓡ
AUDIO. L	AUDIO (L)
AUDIO. R	AUDIO (R)
AV CNT	AV CONTROL
AV CTL	AV CONTROL
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK
AV. C.M.	AV CONTROL MODE
AVCNT/METER. R	AV CONTROL/LEVEL METER (R)
AVSW/METER. L	AV SW/LEVEL METER (L)
B MODE. H	B MODE Ⓗ
B.G.P	BURST GATE PULSE
BACKUP 5V	BACK UP 5V
BAND. U.E.	BAND U
BANDVL. D	BAND VL
BI/MI [L]	BILINGUAL/MIX Ⓛ
BIL	BILINGUAL
BIL [L]	BILINGUAL Ⓛ
BIL. [H]	BILINGUAL Ⓡ
BIL/M1 [L]	BILINGUAL Ⓛ
BS CLOCK	BS CLOCK
BS DATA	BS DATA
BS LCH IN	BS L CHANNEL INPUT
BS MIX [H]	BS MIX Ⓡ
BS MON [H]	BS MONITOR Ⓡ
BS MONI [H]	BS MONITOR Ⓡ
BS RCH IN	BS R CHANNEL INPUT
BS VIDEO	BS VIDEO SIGNAL
BS VIDEO/BS1	BS VIDEO SIGNAL
BS [H]	BS Ⓡ
BS. LEVEL	BS LEVEL
BS. M [H]	BS MONITOR Ⓡ
BS/VTR [H]	BS/VTR Ⓡ
BUS CLK	BUS CLOCK
BUS LSN	BUS LISTEN
BUS TLK	BUS TALK
BUZZER	BUZZER
CAP EC	CAPSTAN TORQUE CONTROL
CAP M GND	CAPSTAN MOTOR GND
CAP. ET	CAPSTAN TORQUE CONTROL
CAP. FG1	CAPSTAN FG1 PULSE
CAP. FG2	CAPSTAN FG2 PULSE
CAS. SW	CASSETTE SW
CCN	PLAYBACK CONTROL SIGNAL (−)
CCP	PLAYBACK CONTROL SIGNAL (+)
CHM	CONTROL SIGNAL (+)
CHP	CONTROL SIGNAL (−)
CINEM [L]	CINEMA Ⓒ
CINEMA [L]	CINEMA Ⓒ
CINEMA/MIX	CINEMA/MIX
CKL	RATCH LOCK
CKS	SHIFT LOCK
CL	CLOCK
CLK	CLOCK
CLK (C.G)	CLOCK
CLOCK. IN	CLOCK INPUT
CLP	CLAMP
COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
COLOR [H]	COLOUR Ⓡ
CONV	CONVERTOR
CS	CHIP SELECT
CTL GND	CONTROL GND
CTL HEAD [+]	CONTROL HEAD (+)
CTL HEAD [−]	CONTROL HEAD (−)
CTL [+]	CONTROL HEAD (+)
CTL [−]	CONTROL HEAD (−)
CUE BIAS	CUE BIAS
CURRENT LIM	CURRENT LIMMITER
CYL ET	CYLINDER TORQUE CONTROL
CYL GND	CYLINDER GND
D.F.M. REC [H]	DELAIED FM RECORDING Ⓡ
D. FM REC [L]	DELAIED FM RECORDING Ⓛ
D. GND	DIGITAL GND

D. REC [H]	DELAYED RECORDING Ⓡ
D4/S. LED	D4/STILL LED
D4/STILLED	D4/STILL LED
DAC [CLK]	TUNER DAC (CLOCK)
DAC/FSCS	TUNER DAC/FS CHIP SELECT
DAREC [H]	DELAYED AUDIO RECORDING Ⓡ
DATA	DATA
DECODER [L]	DECODER (L)
DECODER [R]	DECODER (R)
DEW	DEW
DEW SNS	DEW SENSOR
DFMRE [H]	DELAYED FM AUDIO RECORDING Ⓡ
E. REC 5V	EXCEPT RECORDING 5V
EC	ERROR TORQUE CONTROL
ECR	ERROR TORQUE CONTROL REFERENCE VOLTAGE
EDT TRIG [L]	EDIT TRIGGER Ⓛ
EDIT [H]	EDIT Ⓡ
EE [H]	EE Ⓡ
EE [H]/INS [M]	EE Ⓡ/INSERT Ⓜ
EE. VV. TR	EE/VV/TRICK PLAY
EJECT. PO	EJECT POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK
ENV. SEL	ENVELOPE SELECT
ENVE. OUT	ENVELOPE OUTPUT
ENVE. SEL	ENVELOPE SELECT
ENV SELECT	ENVELOPE SELECT
EP [H]	LP Ⓡ
EP/LP [H]	LP Ⓡ
EP/LP/SP	LP/SP
EP/SS [H]	LP/SLOW/STILL/STOP Ⓡ
EPROMCS	EPROM CHIP SELECT
EX. REC 5V	EXCEPT RECORDING 5V
FF/REW [L]	FIRST FORWARD/REWIND Ⓛ
FG1 IN	FG1 PULSE INPUT
FG2 IN	FG2 PULSE INPUT
FILTER ADJUSTMEN	FILTER ADJUSTMENT
FLY ERASE [H]	FLYING ERASE HEAD ON Ⓡ
FLY ON [H]	FLYING ERASE E HEAD ON Ⓡ
FLY. E [H]	FLYING ERASE HEAD ON Ⓡ
FM MUT [H]	FM AUDIO MUTE Ⓡ
FM MUTE [H]	FM AUDIO MUTE Ⓡ
FM OUT [L]	FM OUTPUT (L)
FM OUT [R]	FM OUTPUT (R)
FM PACK OUT [L]	FM PACK OUTPUT (L)
FM PACK OUT [R]	FM PACK OUTPUT (R)
FM/BS SEL [L]	FM/BS SELECT (L)
FM/BS SEL [R]	FM/BS SELECT (R)
FS. CLK	FS CLOCK
FUL. E [H]	FULL ERASE HEAD ON Ⓔ
FULL. E [H]	FULL ERASE HEAD ON Ⓔ
FULL. E. 12V	FULL ERASE 12V
GND [A]	GND (ANALOGUE)
GND [TU]	GND (TUNER)
GND/N. SW. 12V	GND/NON SW 12V
H. SYNC	HORIZONTAL SYNC
H. AMP. SW	HEAD AMP SW PULSE
H. P <R>	HEAD PHONE (R)
H. P <L>	HEAD PHONE (L)
H. P GND	HEAD PHONE GND
H. P OUT [L]	HEAD PHONE OUTPUT (L)
H. P OUT [R]	HEAD PHONE OUTPUT (R)
H. SW	HEAD SW PULSE
HEAD PHONE [L]	HEAD PHONE (L)
HEAD PHONE [R]	HEAD PHONE (R)
HEAD SW	HEAD SW
HEATER [+]	HEATER (+)
HEATER [−]	HEATER (−)
HSS	HORIZONTAL SYNC SIGNAL
HTR [+]	HEATER (+)
HTR [−]	HEATER (−)
I.RFE	REFERENCE CURRENT
ICL	CONTROL AGC CIRCUIT
IF	INTERMEDIATE FREQUENCY
IN SELA1	INPUT SELECT A1 POSITION
IN SELA2	INPUT SELECT A2 POSITION
IN SELA3	INPUT SELECT A3 POSITION
INS L/R [L]	INSERT Lch/Rch Ⓛ
INS. [H]	INSERT Ⓡ
INSEL A1	INPUT SELECT A1 POSITION
INSEL A2	INPUT SELECT A2 POSITION
INSERT	INSERT
INSERT [H]	INSERT Ⓡ
IO CS	INPUT/OUTPUT CHIP SELECT
JOG1	JOG1
JOG S3 LED/FOWRD	JOG LED/FORWARD LED
JOG/F. LED	JOG LED/FORWARD LED
JSB [H]	JSB Ⓡ
JST. CLCK	JUST CLOCK
JST. CLK	JUST CLOCK
JST. CLOCK	JUST CLOCK
L. OUT	Lch OUTPUT
L. CH [H]	Lch Ⓡ
L. CH [L]	Lch Ⓒ
LED (MAIN)	LED (MAIN)
LED (STEREO)	LED (STEREO)
LED (SUB)	LED (SUB)
LED CKL	LED SERIAL CLOCK
LED CKS	LED SERIAL CLOCK
LED DATA	LED SERIAL DATA
LINE IN 1 [L]	LINE INPUT 1 (L)
LINE IN 1 [R]	LINE INPUT 1 (R)
LINE IN 2 [L]	LINE INPUT 2 (L)
LINE IN 2 [R]	LINE INPUT 2 (R)
LINE IN V	LINE INPUT VIDEO
LINE IN [L]	LINE INPUT (L)
LINE IN [R]	LINE INPUT (R)
LINE OUT [L]	LINE OUTPUT (L)
LINE OUT [R]	LINE OUTPUT (R)
LP [H]	LP Ⓡ

LPTRI [L]	LP TRICK PLAY Ⓒ
Lch/A. DUB	Lch/AUDIO DUBBING
M GND	MOTOR GND
M REG	MOTOR REGULATOR
MAIN OUT	MAIN OUTPUT
MAIN [L]	MAIN Ⓛ
MAIN/MONO	MAIN/MONAURAL
MAX IN	MAXIMAM INPUT
MES [H]	MESECAM Ⓜ
MESE [H]	MESECAM Ⓡ
MESE [L]	MESECAM Ⓛ
METER 5V	LEVEL METER 5V
METER [L]	LEVEL METER (L)
METER [R]	LEVEL METER (R)
METER. L/AVS	LEVEL METER (L)
METER. R/AVC	LEVEL METER (R)
MI/BI [L]	MIX Ⓜ/BILIGUAL
MIC GND	MIC GND
MIC IN	MIC INPUT
MIC IN [L]	MIC INPUT (L)
MIC IN [R]	MIC INPUT (R)
MIC [H]	MIC Ⓡ
MIX [H]	MIX Ⓡ
MIX [H]/CINEMA [L]	MIX Ⓜ/CINEMA SOUND Ⓛ
MIX/CINE	MIX Ⓜ/CINEMA SOUND Ⓒ
MIX/CINEMA [L]	MIX Ⓜ/CINEMA SOUND Ⓒ
MN. H/M. L	MONAURAL Ⓜ/MAIN Ⓒ
MN. H/MAI. L	MONAURAL Ⓜ/MAIN Ⓒ
MN2/MES. L	MONAURAL 2/MESECAM Ⓛ
MODE SEL	AUDIO MODE SELECT
MODE SW	AUDIO MODE SW
MODE. S. IN	AUDIO MODE SELECT INPUT
MODE. S. OUT	AUDIO MODE SELECT OUTPUT
MONO [H]	MONAURAL Ⓜ
MONO [H]/MAIN [L]	MONAURAL Ⓜ/MAIN Ⓛ
MONO2 [L]	MONAURAL 2
MONO2/MESE [FM(L)]	MONAURAL 2/MESECAM (FM Ⓛ)
MOTOR GND	MOTOR GND
MUTE	MUTE
N. A. REC [L]	NORMAL AUDIO RECORDING
N. SW 12V	NON SW 12V
N. SW. 5. DET	NON SW 5V DETECT
NICAM	NICAM
NICAM [L]	NICAM Ⓒ
NOL [H]	PAL Ⓖ/4.43 NTSC Ⓜ/3.58 NTSC Ⓛ
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAY Ⓡ
NORMAL [H]	NORMAL Ⓡ
NR BIAS	NR BIAS
NTSC [L]	NTSC Ⓛ
OCH	CONTROL AGC CIRCUIT
OUT	OUTPUT
P-OFF [H]	POWER OFF Ⓡ
P-OFF [L]	POWER OFF Ⓒ
P. FAIL	POWER FAILURE DETECT
P. OFF [H]	POWER OFF Ⓡ
P. OFF [L]	POWER OFF Ⓒ
PAL [H]	PAL Ⓡ
PAL [L]/NTSC [H]	PAL Ⓖ/NTSC Ⓡ
PB ADJ OUT	PLAYBACK ADJUST OUTPUT
PB OUT	PLAYBACK OUTPUT
PB. H	PLAYBACK Ⓡ
PFG	PG/FG
PHOTSN +B	PHOTO SENSOR +B
PICT. CNT	PICTURE CONTROL
PLAY LED/RVS LED	PLAY LED/REVERSE LED
PLAY. PO	PLAY POSITION
PLAY/R. LED	PLAY LED/REVERSE LED
PLY/DEW	PLAY/DEW Ⓡ
POWER OFF [L]	POWER OFF Ⓛ
PREROLL [H]	PREROLL Ⓡ
PWRFAIL	POWER FAILURE DETECT
R. CH [H]	Rch Ⓡ
R. CH [L]	Rch Ⓒ
R. ST	RESET
R/S/F	REVERSE Ⓡ/STOP Ⓜ/FORWARD Ⓛ
RCH [H]	Rch Ⓡ
REC 12V	RECORDING 12V
REC CHROMA	RECORDING CHROMINANCE SIGNAL
REC H	RECORDING Ⓡ
REC IN	RECORDING INPUT
REC OUT [L]	RECORDING OUTPUT Ⓛ
REC START	RECORDING START
REC VR [C]	RECORDING VOLUME (COMMON)
REC VR [L]	RECORDING VOLUME (L)
REC VR [R]	RECORDING VOLUME (R)
REC Y	RECORDING LUMINANCE SIGNAL
REC [H]	RECORDING Ⓡ
REC. C	RECORDING CHROMINANCE SIGNAL
REC. Y	RECORDING LUMINANCE SIGNAL
REC/EE CTL	RECORDING/EE CONTROL
REEL-T	REEL PULSE (TAKE-UP)
REEL-S	REEL PULSE (SUPPLY)
REGULATOR FILTER	REGULATOR FILTER
RESET	RESET
REV M F/R	REVIEW MOTOR FORWARD/REVERSE
REV M V1	REVIEW MOTOR V1
REV M V2	REVIEW MOTOR V2
REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
REV MOTOR V1	REVIEW MOROR V1
REV MOTOR V2	REVIEW MOTOR V2
REV MOTOR [+]	REVIEW MOTOR (+)
REV MOTOR [−]	REVIEW MOTOR (−)
REV. M. GND	REVIEW MOTOR GND
RF. CHROMA	RF CHROMINANCE SIGNAL
RF OUT	RF OUTPUT
RF Y	RF LUMINANCE SIGNAL
RF. Y. IN	RF LUMINANCE SIGNAL INPUT
RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT

ROTAR. SW	ROTARY SW
ROTARY	ROTARY SW
RST	RESET
RST [L]	RESET Ⓛ
Rch/INST	Rch/INSERT
S IN	SERIAL DATA INPUT
S OUT	SERIAL DATA OUTPUT
S-PHOTO	SUPPLY PHOTO TRANSISTOR
S-RL. PLS	SUPPLY REEL PULSE
S. CLK	SERIAL CLOCK
S. CLK/AV	SERIAL CLOCK/AV
S. DATA	SERIAL DATA
S. DATA/A	SERIAL DATA
S. PHOTO	SUPPLY PHOTO TRANSISTOR
S. TAB [L]	SAFETY TAB SW ON Ⓛ
S/P/N	SECAM/PAL/NTSC
SC IN	SERIAL CLOCK INPUT
SC OUT	SERIAL CLOCK OUTPUT
SCK SELECT	SERIAL CLOCK SELECT
SEL OUT [L]	SELECT OUTPUT (L)
SEL OUT [R]	SELECT OUTPUT (R)
SHUTTLE 1	SHUTTLE 1
SIF	SOUND INTERMEDIATE FREQUENCY
SLMUT [H]	INPUT SELECT MUTE Ⓡ
SLNID [+]	SOLENOID (+)
SLNID [−]	SOLENOID (−)
SLW TR. MM	SLOW TRACKING MONO MULTI
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE
SNS. GND	SENSOR GND
SOFT [H]	SOFT TAPE PLAY Ⓡ
SOFT [H]/NORMAL	SOFT TAPE PLAY Ⓡ/NORMAL Ⓡ
SOLENOID ON [L]	SOLENOID ON Ⓛ
SP [H]	SP Ⓡ
SP/L/SLP	SP/LP
SSS [L]	SLOW/STILL/STOP
STEREO LED	STEREO LED
STEREO [H]	STEREO Ⓡ
STEREO [L]	STEREO Ⓒ
STOP. PO	STOP POSITION
STOP/5V	STOP POSITION/5V
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT
STOP1/PAL: ST	STOP1 POSITION/PAL
STOP2. PO	STOP 2 POSITION
STOP2/S-TAB	STOP 2 POSITION/SAFETY TAB SW
STREO [H]	STEREO Ⓡ
SUB BIAS	SUB BIAS
SUB. SW	SUB SW
SVHS CAS [L]	S-VHS CASSETTE Ⓛ
SW. 5. DET	SW 5V DETECT
SYNC [L]	SYNC Ⓛ
SYSCON 5V	SYSTEM CONTROL 5V
SYSTEM	SYSTEM SW
T-PHOTO	TAKE-UP PHOTO TRANSISTOR
T-RL. PLS	TAKE-UP REEL PULSE
T. BUSCLK	TIMER BUS CLOCK
T. BUSLSN	TIMER BUS LISTEN
T. BUSTLK	TIMER BUS TALK
T. END [L]	TAPE END Ⓛ
T. PHOTO	TAKE-UP PHOTO TRANSISTOR
TAPE END [L]	TAPE END Ⓛ
TAPE END [L]/CAM	TAPE END Ⓛ/CAMERA PAUSE
TEST	TEST MODE
TPZ	TRAPEZOIDAL WAVE CIRCUIT
TRIC [L]	TRIC PLAY Ⓒ
TRICK [L]	TRIC PLAY Ⓒ
TRK. ENV	AUTO TRACKING ENVELOPE DETECT
TU. AUDIO	TUNER AUDIO
TU. GND	TUNER GND
TU. V. IN	TUNER VIDEO SIGNAL INPUT
TU. VIDEO	TUNER VIDEO
TUN NOR IN	TUNER NORMAL INPUT
TUN R	TUNER AUDIO (R)
TUN. AUDIO IN	TUNER AUDIO INPUT
TUNER 12V	TUNER 12V
TUNER L	TUNER AUDIO (L)
TUNER V IN	TUNER VIDEO SIGNAL INPUT
TUNER [L]	TUNER AUDIO (L)
TUNER [N]	TUNER AUDIO (NORMAL)
TUNER [R]	TUNER AUDIO (R)
TUNER. 12	TUNER 12V
TUOFF [H]	TUNER OFF Ⓡ
TV. AUDIO	TV AUDIO
TV/VTR	TV/VTR
TXTON [L]	TEXT ON Ⓛ
U. REG45V	UNREGULATOR 45V
UNREG	UNREGULATOR
UNREG19V	UNREGULATOR 19V
V. REF	REFERENCE VOLTAGE
V. EE [H]	VIDEO EE Ⓡ
V. EE [L]	VIDEO EE Ⓒ
VCO REF	RERERENCE OSCILLATER
VD. IN	VIDEO SIGNAL INPUT
VD. OUT	VIDEO SIGNAL OUTPUT
VIDEO EE [L]	VIDEO EE Ⓒ
VIDEO IN	VIDEO SIGNAL INPUT
VIDEO OUT	VIDEO SIGNAL OUTPUT
VM	MOTOR VOLTAGE
VM DOWN [L]	MOTOR VOLTAGE DOWN Ⓛ
VSS	VERTICAL SYNC SIGNAL
VTR [H]	VTR Ⓡ
VTR. 12V	VTR 12V
X IN	OSCILLATOR INPUT
X OUT	OSCILLATOR OUTPUT

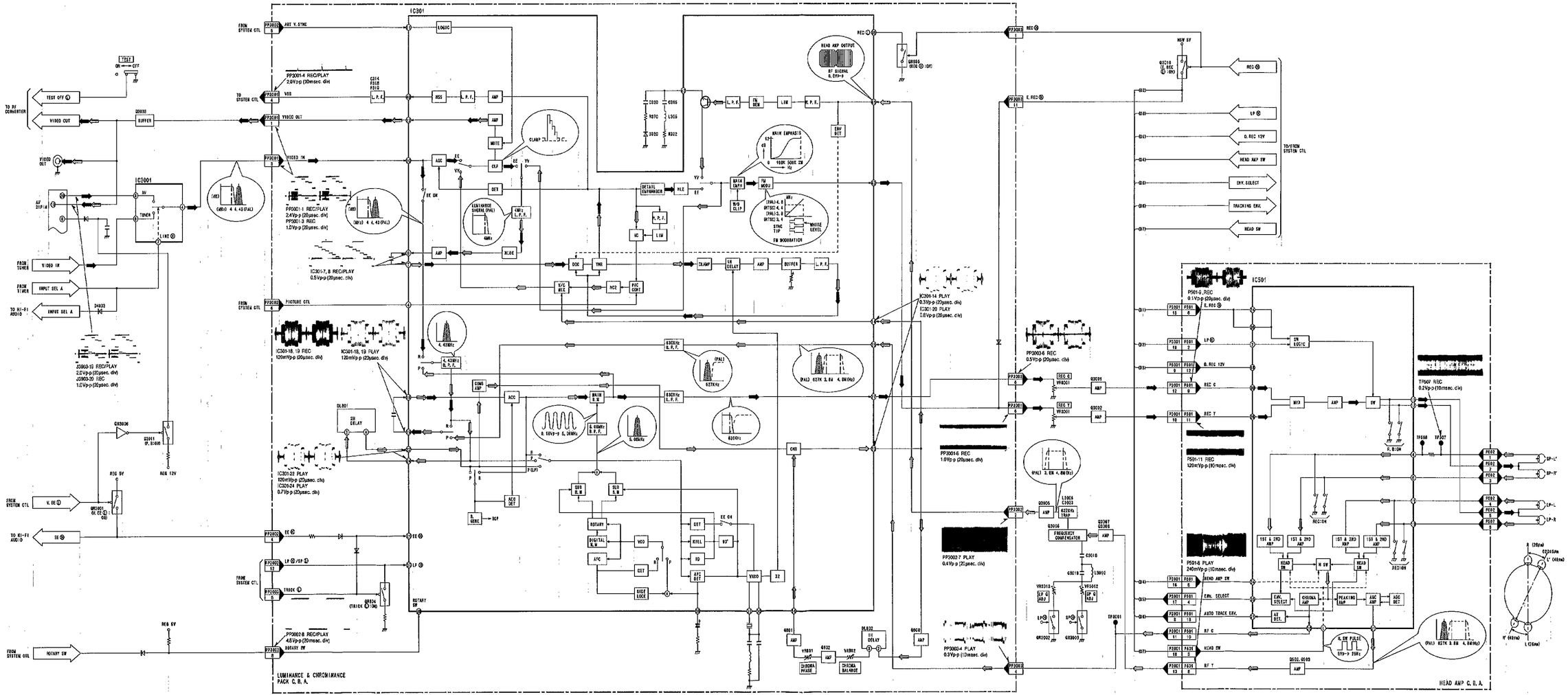
3-2. SYSTEM CONTROL & SERVO BLOCK DIAGRAM


DD CAPSTAN MOTOR
CAPSTAN FG READ
MAIN COIL 2
MAIN COIL 1
HALL IC
MAIN COIL 3
P1507
IC2002-1, 3, 30 REC
2.5Vp-p (50 msec. div)
IC2002 CAPSTAN MOTOR DRIVE IC
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE CONTROL
TORQUE DIRECTION
POSITION SIGNAL PROCESS
VREF
N. SW 5V
REFERENCE
CAP ERROR
REVERSE
CAP STOP
FORWARD
X2001
REG 14V
IC6001 SYSTEM CONTROL/SERVO IC
SERVICE
TEST
+5V
XCRADL
SERVO
FEED
CAP (TRACKING OFF)
IC6001-30 REC
5.0Vp-p (10msec. div)
IC6001-82 REC
1.4Vp-p (10μsec. div)
IC6001-83 REC
3.5Vp-p (10μsec. div)
IC6001-27, 28 REC
1.2Vp-p (0.5msec. div)
IC6001-26 REC
2.0Vp-p (10msec. div)
IC6001-62 REC
5.0Vp-p (10msec. div)
IC6001-63 REC
5.0Vp-p (10msec. div)
IC6001-64 REC
5.0Vp-p (10msec. div)
IC6001-41 PLAY
3.0Vp-p (10msec. div)
IC6001-5 REC
6.0Vp-p (0.5sec. div)
IC6001-19 REC
6.0Vp-p (0.5sec. div)
IC6001-43 REC
5.0Vp-p (10msec. div)
IC6001-34, 35 REC
6.0Vp-p (10msec. div)
IC6001-45 PLAY
5.0Vp-p (10msec. div)
IC2004
PICTURE CTL
REG 12V
SLOW TR. SP
SLOW TR. LP
VR2011
VR2005
VR2001
PG SHIFTER
LINREG 14V
TO VIDEO
TO VIDEO/ HEAD AMP/ HI-FI AUDIO
LP
SP/LP
FROM VIDEO
VSS
ENV. SELECT
TRACKING ENV.
TO/FROM HEAD AMP
HEAD AMP SW
VIDEO HEAD SW
REC
AUTO TRACKING ENV.
HEAD AMP SW
VIDEO HEAD SW
SLOW TR. MM
CTL P.B SW
CTL AMP SW
PB CTL
CTL (-) CLOUP
CTL (+) CLOUP
FF/REW
Y. CHANGE
CTL P.G
CTL EX.
6V (D)
5V (DAC)
5V (A)
SLOW TRACKING REF (RES 2, 6W)
ROTARY SW
ARTIFICIAL V
TRICK PLAY
VIDEO E-E
TO VIDEO
V. D. REC 12V
A. D. REC 12V
N. A. MUTE
A. READ SW
D. A. REC
A. MODE SEL
FM MUTE
N. AUDIO MUTE
AUDIO READ SW
D. A. REC
AUDIO MODE SEL
FM MUTE
TO AUDIO
RESET
SERIAL CLK
SERIAL DATA
POWER OFF
TO HI-FI AUDIO
TO POWER
POSITION SW 3
POSITION SW 2
POSITION SW 1
TAKE UP PHOTO
SUPPLY PHOTO
REG 12V
LINREG 14V
TAPE SENSOR LED
S. REEL PULSE
T. REEL PULSE
LOADING
UNLOADING
S. TAB
CTL HEAD (+)
CTL HEAD (-)
DEW DT
IC2001
LOADING MOTOR DRIVE
P4003
CTL HEAD
IC2001-1, 9
IC2001-7
IC6009
22K
DD CYLINDER MOTOR
MAIN COIL 3
MAIN COIL 2
MAIN COIL 1
HALL IC
IC2901/CYLINDER DRIVE IC
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE CONTROL
PG/FG
SCHMIT
IC2901-1, 2, 17 REC
8.0Vp-p (2msec. div)
IC7501 TIMER IC
IC7502
RESET
BACK UP CAPACITOR
IC7503 (EEPROM)
IC7504
DAC
TO TV DEMODULATOR
TO VIDEO/ HI-FI AUDIO
TO HI-FI AUDIO
TO NICAM DECODER
LINE IN
SEL MUTE
MONO
TO/FROM POC PACK (OPTION)
BACK UP 5V
TMR BUS CLK
TMR BUS LSH
TMR BUS TLK
TMR CLK
DATA OUT
DATA IN
CS
POWER FAIL
SERIAL CLOCK
SERIAL DATA
SERIAL DATA
P7501-1 STOP
5.0Vp-p (5msec. div)
P7501-5 STOP
5.0Vp-p (5msec. div)
P7501-3 STOP
5.0Vp-p (5msec. div)
RESET
SERIAL CLOCK
SERIAL DATA
POWER OFF
STEREO
MONO1
MONO2
NICAM
LCH
LCH 5V
RESET
FROM NICAM DECODER
FROM HI-FI AUDIO
D7633
D7634
D7635
D7636
Q7602
(POWER ON:L)
N. SW 5V
Q7603
(POWER OFF:H)
Q7606
Q7607
Q7604
Q7605
Q7608
Q7609
Q7610
Q7611
IC7501-38
IC7501-39
IC7501-40
IC7501-41
IC7501-42
IC7501-43
IC7501-44
GRID 0
GRID 9
SEG 12
SEG 0
P50
P51
P52
P53
P54
P55
P56
P57
P43
P44
GRID SIGNALS
SEGMENT SIGNALS
FF
REW
STOP
REC
TIMER PRESET
TIMER REC
SP/LP RESET
CH DOWN
EJECT
PLAY
POWER
PROG.
CLOCK SET
SLEEP, SHIFT
CH UP
OPERATION (C.B.A.)
IC7501-6 STOP
5.0Vp-p (10μsec. div)
IC7501-6 STOP
3.0Vp-p (10μsec. div)
IC7501-2 STOP
5.0Vp-p (10μsec. div)
IC7501-3 STOP
7.3Vp-p (10msec. div)
TIMER STANDBY
IR
X1
X2
OSC 1
OSC 2
IR7501
IR RECEIVER UNIT
32KHz (BACK UP)
X7402
4.19MHz
X7501
TIMER OSC
N. SW 5V
POWER SAVE
SW1517
OFF
ON
Q6902
Q6901
Q6904
Q6903
PP7501/P5503
PP7501/P5504
POWER SAVE
TIMER STANDBY
DP7501
FIP TIMER DISPLAY
F1
F2
T7704
Q7701
Q7702
Q7703
Q7704
Q7705
Q7706
Q7707
Q7708
Q7709
Q7710
Q7711
Q7712
Q7713
Q7714
Q7715
Q7716
Q7717
Q7718
Q7719
Q7720
Q7721
Q7722
Q7723
Q7724
Q7725
Q7726
Q7727
Q7728
Q7729
Q7730
Q7731
Q7732
Q7733
Q7734
Q7735
Q7736
Q7737
Q7738
Q7739
Q7740

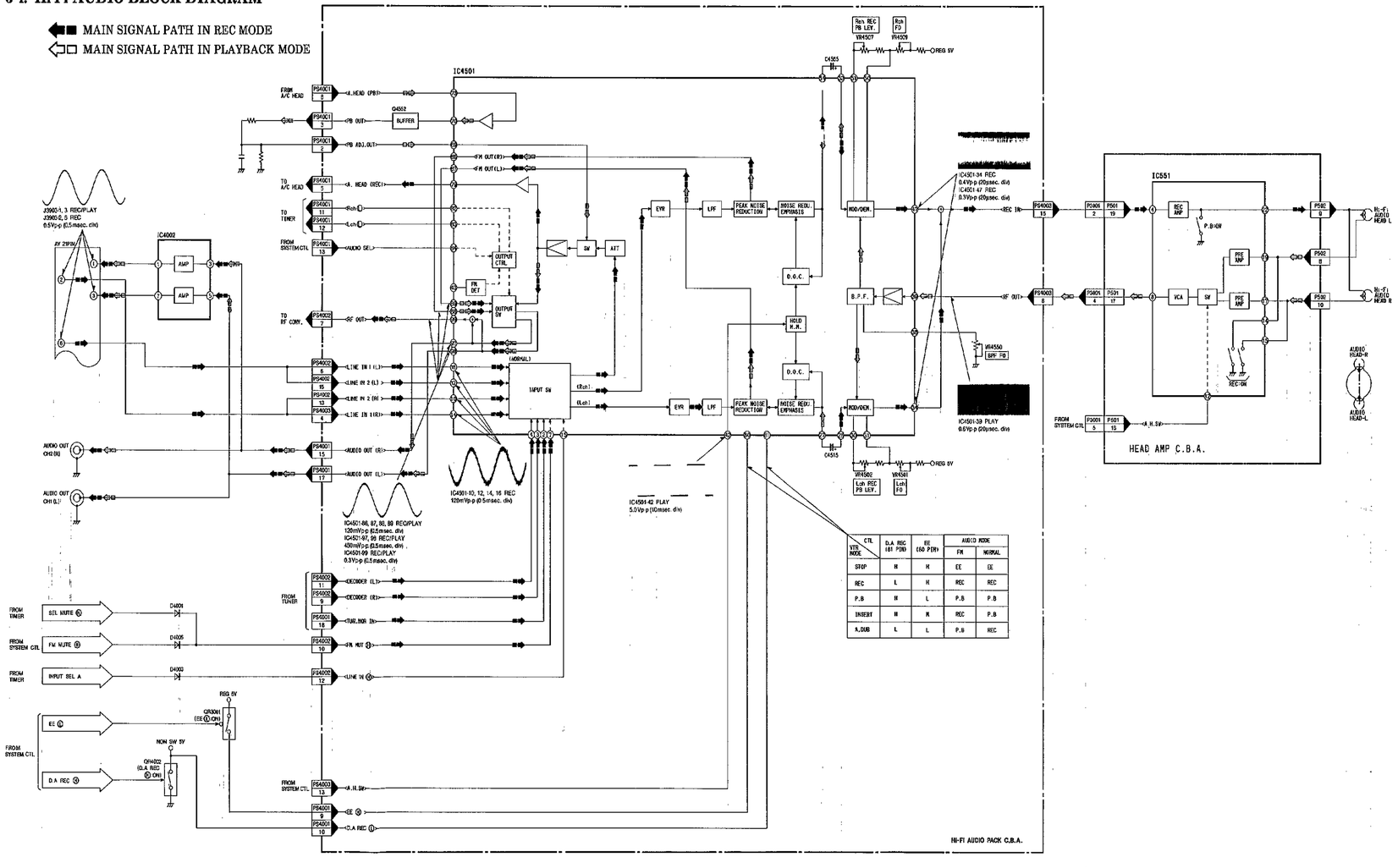
3-3. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE



3-4. Hi-Fi AUDIO BLOCK DIAGRAM



CTL / VTR MODE	D.A REC (61 PIN)	EE (60 PIN)	AUDIO MODE FM	AUDIO MODE NORMAL
STOP	H	H	EE	EE
REC	L	H	REC	REC
P.B	H	L	P.B	P.B
INSERT	H	H	REC	P.B
A.DUB	L	L	P.B	REC

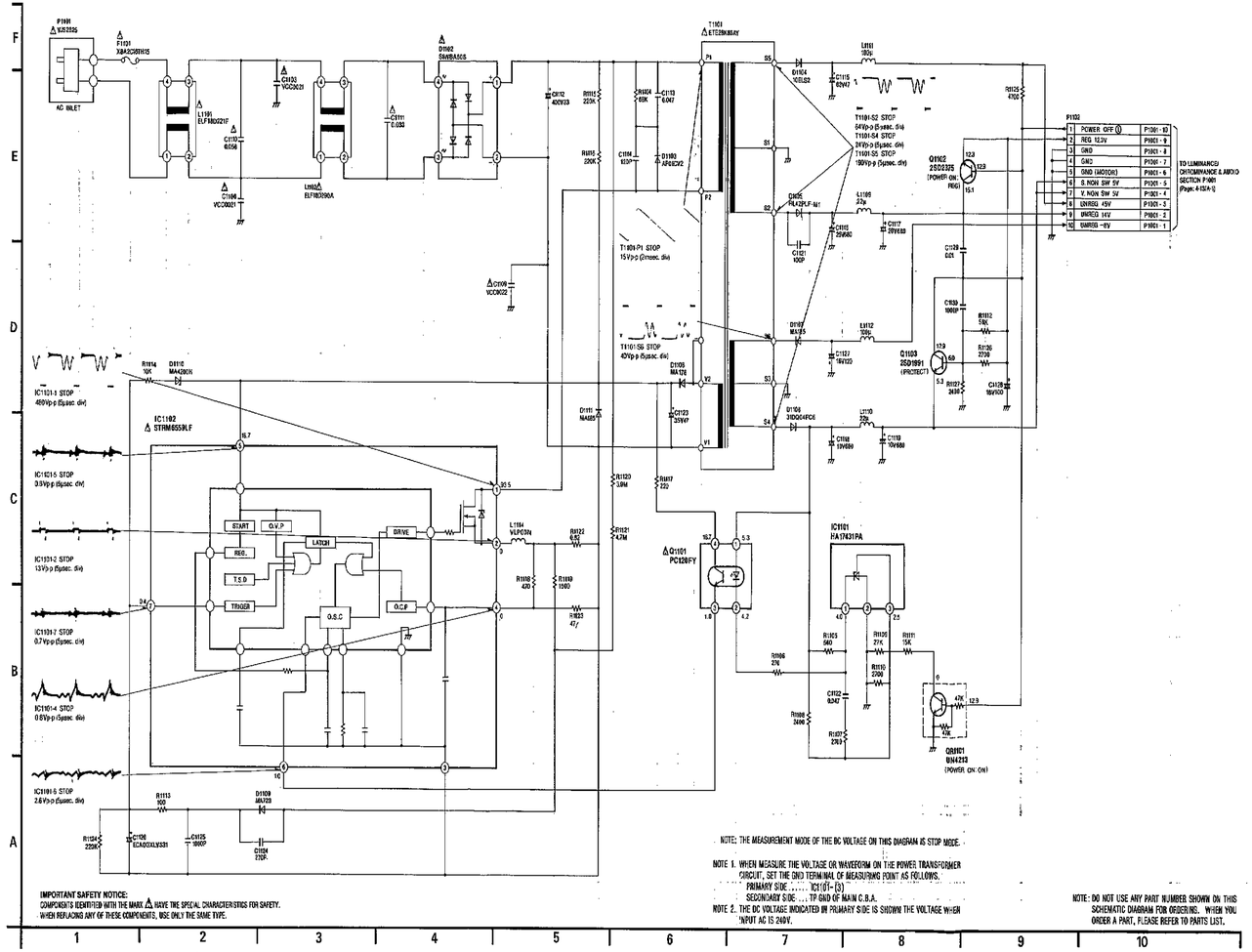
SYMBOL	TRUTH VALUE TABLE
INVERTER	IN: (a) H L; OUT: (b) L H
COMPARTOR	IN: (a) (b); (a)>(b) H; (a)<(b) L; OUT: (c)
AND CIRCUIT	IN: (a) L L H H; (b) L H L H; OUT: (c) L L L H
OR CIRCUIT	IN: (a) L L H H; (b) L H L H; OUT: (c) L H H H
THREE STATES BUFFER	IN: (a) H L H or L; (b) L L H; OUT: (c) H L ※
TR. SW (NPN TYPE)	BASE H L; TR. SW ON OFF
TR. SW (PNP TYPE)	BASE H L; TR. SW OFF ON
R-S TYPE FLIP-FLOP	IN: (a) L L ⎍; (b) L ⎍ L; OUT: (c) ※ L H; (d) ◆ H L

※ High Impedance

※ Initial condition is maintained.
◆ Initial condition is reversed.

SECTION 4
SCHEMATIC DIAGRAMS

4-1. POWER SCHEMATIC DIAGRAM

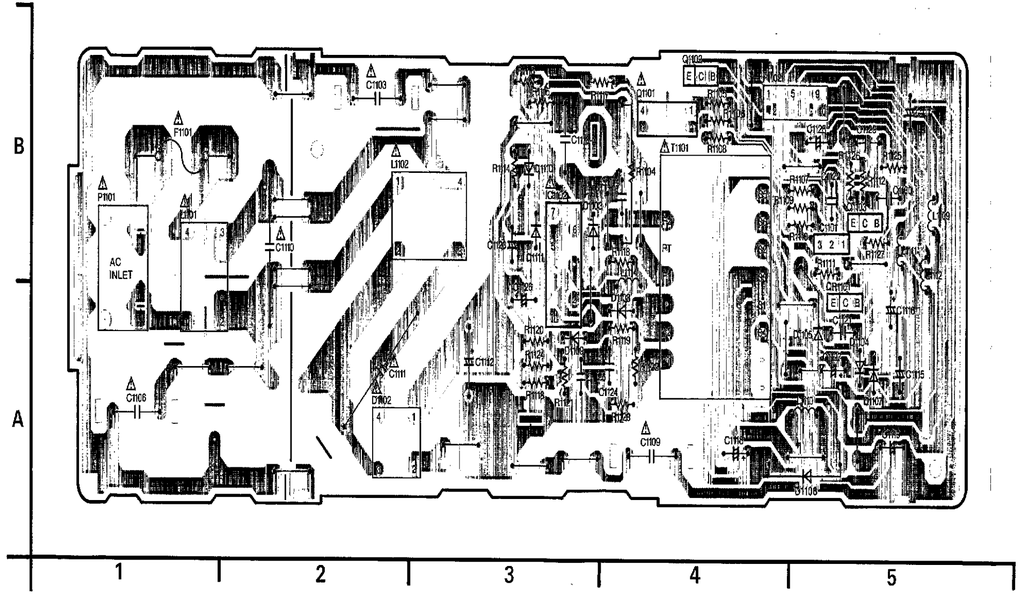


4-1 4-2 4-3

4-2. POWER C.B.A. (VEP01587A)

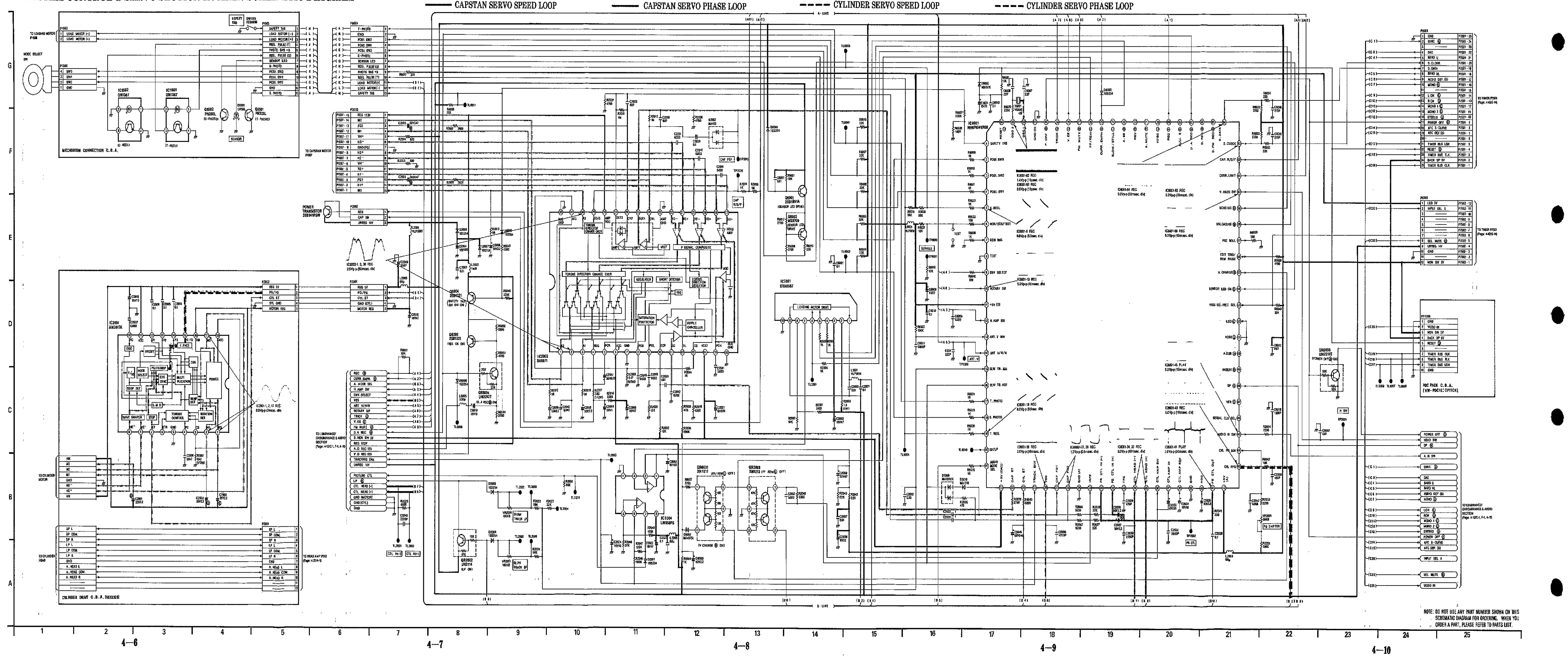
POWER C.B.A.	
Transistor	
Q1101	B-4
Q1102	B-4
Q1103	B-5
Transistor & Resistor	
QR1101	A-5
Integrated Circuit	
IC1101	B-5
IC1102	B-3
Connector	
P1101	B-1
P1102	B-4

ADDRESS INFORMATION



4-4 4-5

4-3. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM



CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
MECHANISM CONNECTION C.B.A.
TO LOADING MOTOR P1508
MODE SELECT SW
IC1502 ON1387
IC1501 ON1387
Q1502 PN205L (S-PHOTO)
D1501 LN58L
Q1501 PN205L (T-PHOTO)
SENSOR
TO CAPSTAN MOTOR P1507
POWER TRANSISTOR 2SB1416FSW
IC2002-1, 3, 30 REC 2.5Vp-p (50msec. div)
Q6004 2SB1321 (SAFETY TAB SW ON: ON)
Q6005 2SB1321 (REC OK ON)
QR6004 UN2212T
IC2002 BA6871
TORQUE DIRECTION CHANGE OVER
REGULATOR
SHORT DETECTOR
TORQUE DIRECTION DETECTOR
SATURATION PROTECTOR
RIPPLE CANCELLER
P SIGNAL COMPOSITE
HOLE AMP
Q6001 2SD1991A (SENSOR LED DRIVE)
Q6002 MSB709 (SENSOR LED DRIVE)
IC2001 XRA6887
LOADING MOTOR DRIVE
IC6001 MN67434VRSR
IC2901 AN3815K
IC2901-1, 2, 17 REC 8.0Vp-p (2msec. div)
TO CYLINDER MOTOR
TO CYLINDER HEAD
CYLINDER DRIVE C.B.A. (VEX0126)
TO HEAD AMP P502 (Page: 4-21/A-1)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION (Page: 4-13/C-1, F-1, A-16)
QR2002 UN2114 (LP ON)
SLOW TRACK LP
SLOW TRACK SP
IC2004 LM358PS
QR6001 XN1211 (FF/REW(L): OFF)
QR2003 XN1213 (FF REW(L): OFF)
(V CHARGE (H): ON)
TO TIMER P7501 (Page: 4-43/E-16)
TO TIMER P7502 (Page: 4-42/G-16)
QR6003 UN2211T (POWER OFF (H): ON)
PDC PACK C.B.A. (VW-PDC1E: OPTION)
PG SHIFTER
A-LINE
B-LINE
G F E D C B A
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
4—6
4—7
4—8
4—9
4—10

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

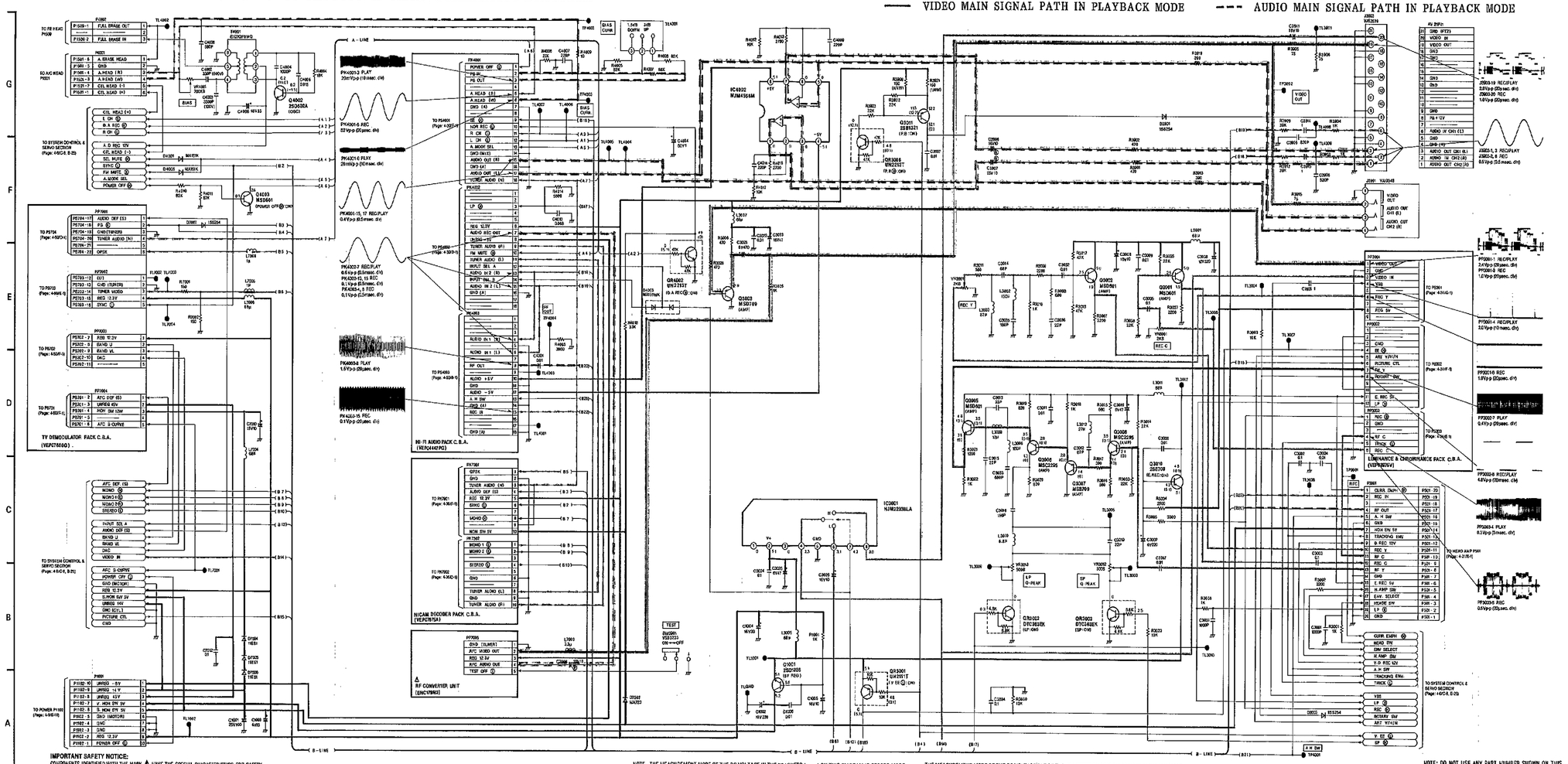
REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10										
STOP	1.8	15.2	15.2	0	0	0	7.4	9.9	4.7	0										
PLAY	1.6	14.8	14.8	0	0	0	7.4	9.8	0.3	0										
REC	4.2	14.8	14.8	0	0	0	7.4	9.8	2.4	0										
F.F	5.7	14.7	14.9	0	0	0	14.9	9.8	4.2	0										
REW	6.2	14.8	14.8	0	0	0	14.9	9.9	4.4	0										
REF. NO.	IC2002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.5	4.6	0.5	14.4	0.4	15.0	0	4.7	0.8	3.0	0.2	0.4	0.1	5.2	1.4	0	2.3	2.3	2.3	2.3
PLAY	2.9	4.6	2.8	13.8	2.1	14.9	0	1.3	0.8	3.0	2.7	0.5	0.1	5.2	1.4	0	2.3	2.4	2.4	2.4
REC	2.9	4.6	2.8	13.7	2.1	14.9	0	0.6	0.6	3.0	2.7	0.4	0.1	5.2	1.4	0	2.3	2.4	2.4	2.4
F.F	7.3	14.7	7.5	6.4	12.9	14.8	0	0.9	0.7	3.0	2.4	0.5	0.2	5.2	1.4	0	2.4	2.4	2.4	2.4
REW	7.3	14.8	7.3	12.5	12.9	14.9	0	0.6	0.7	3.0	2.7	0.4	0.1	5.2	1.4	0	2.3	2.3	2.3	2.3
REF. NO.	IC2002																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
STOP	2.3	2.3	0	5.8	6.0	6.1	6.0	11.8	2.1	0.5	0	0								
PLAY	2.4	2.4	0	3.6	6.0	6.1	6.1	11.8	0.1	2.9	0.1	0								
REC	2.4	2.3	0	6.1	6.0	6.1	6.1	11.8	0	2.9	0.1	0								
F.F	2.4	2.4	0	6.1	6.0	6.1	6.1	11.8	0	6.6	0.1	0								
REW	2.3	2.3	0	6.1	6.0	6.1	6.1	11.8	5.2	7.8	0.1	0								
REF. NO.	IC2004																			
MODE	1	2	3	4	5	6	7	8												
STOP	2.6	2.6	2.6	0	2.7	2.8	3.8	12.2												
PLAY	2.6	2.6	2.6	0	2.7	2.8	2.2	12.2												
REC	2.6	2.6	2.6	0	2.8	2.8	4.7	12.1												
F.F	2.6	2.6	2.6	0	2.8	2.8	3.5	12.2												
REW	2.6	2.6	2.6	0	2.8	2.8	2.6	12.2												
REF. NO.	IC2901																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	14.3	14.3	0.1	1.1	0	2.5	2.5	2.6	2.5	2.7	5.1	3.8	3.8	3.8	1.3	15.0	14.3	0.1		
PLAY	14.5	15.1	0.1	1.1	0	2.6	2.5	2.6	2.5	2.7	5.1	3.8	3.7	3.9	1.4	14.9	14.6	0.1		
REC	14.9	14.9	0.1	1.0	0	2.6	2.5	2.6	2.5	2.7	5.1	4.8	3.8	3.8	1.1	14.8	14.5	6.0		
F.F	14.8	15.1	0.1	1.1	0	0	2.5	2.6	2.5	2.7	5.1	3.8	3.7	3.9	1.1	14.8	15.0	0.1		
REW	14.6	14.5	0.1	1.1	0	2.6	2.5	2.6	2.5	2.7	5.1	3.8	3.7	3.8	1.1	14.8	14.9	0.1		
REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.4	4.8	0	0	0.1	5.1	0	0	3.7	4.9	5.2	0	0	0	0	2.6	4.9	5.0	4.8	0
PLAY	0.5	5.0	0	0	4.5	5.1	0	0	3.8	5.2	5.2	0	0	0	0	2.6	4.8	4.9	4.4	0
REC	0	5.1	0	0	0.1	5.1	0	0	4.3	5.1	5.2	0	0	0	0	2.6	5.1	5.1	5.1	0
F.F	0.4	4.9	4.6	0	1.7	4.8	0	0	3.6	5.2	5.2	0	0	0	0	2.6	4.8	4.8	1.8	0
REW	0.6	4.4	4.6	0	1.8	4.9	0	0	2.9	3.8	5.2	0	0	0	0	2.6	4.7	4.7	2.4	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.2	5.2	0.2	2.5	1.9	2.9	2.8	2.6	0	2.6	2.4	2.7	5.0	0	0	0	2.6	2.6	0	2.6
PLAY	5.2	5.2	2.7	2.5	3.3	2.6	2.6	2.6	0	2.6	2.5	2.7	2.8	0	0	0	2.6	2.6	0	2.9
REC	5.2	5.2	2.7	2.5	0.8	2.5	2.5	2.5	0	2.6	2.4	2.7	5.1	3.7	3.8	0	2.6	2.5	0	2.5
F.F	5.2	5.2	2.7	2.5	2.6	2.8	2.7	2.7	0	2.6	2.5	2.7	4.8	0	0	0	2.6	2.6	0	3.1
REW	5.2	5.2	2.7	2.5	1.4	2.6	2.6	2.6	0	2.6	2.5	2.7	4.8	0	0	0	2.5	2.5	0	3.1
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.5	5.1	1.6	3.3	0	4.4	0	5.1	0	0	0	0	4.8	5.2	5.1	5.1	0.3	0	0	4.1
PLAY	2.6	5.1	1.3	3.6	3.8	3.8	0	5.1	0	0	0	0	4.7	0.1	5.1	5.1	0.5	0	0	5.2
REC	2.6	5.1	1.2	3.7	0	4.6	0	5.1	0	0	0	0	5.1	0	5.1	5.2	0	0	0	5.2
F.F	2.6	5.1	1.3	3.2	0	4.5	0	5.1	0	0	0	0	4.4	0.1	0	5.0	0.7	0	0	5.2
REW	2.6	5.1	2.0	3.1	0	4.7	0	5.1	0	0	0	0	4.2	0.1	0	5.0	0.7	0	0	4.4
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	5.1	2.1	4.6	4.4	0	0	0	0	0.1	5.1	0	5.2	5.2	0	0	5.1	0	0	5.1	0.1
PLAY	5.1	0	4.5	4.5	0	0	0	0	0.1	5.1	0	0	0	0	0	5.0	0	4.8	5.1	0.1
REC	5.1	0	4.6	4.7	5.2	5.2	5.1	5.2	5.2	5.1	0	0	5.2	0	0	5.1	0	0	5.1	0.1
F.F	5.1	1.7	4.7	4.7	0	0	0	0	0.1	5.2	0	0	5.2	0	0	0	0	0	5.2	0.1
REW	5.1	5.2	4.6	4.5	0	0	0	0	0.1	5.2	0	5.2	5.2	0	0	0	0	1.0	5.2	0.1
REF. NO.	IC6001																			
MODE	81	82	83	84																
STOP	0	2.5	2.6	4.8																
PLAY	0	2.3	2.6	4.8																
REC	0	2.4	2.6	4.9																
F.F	0	2.4	2.6	4.8																
REW	0	2.4	2.6	4.8																

SYSTEM CONTROL & SERVO TRANSISTORs DC VOLTAGE CHART (SP MODE)

REF. NO.	Q1503			Q6001			Q6002			Q6004			Q6005					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
STOP	15.1	4.6	14.5	5.2	15.0	5.7	5.2	0.2	5.2	12.2	12.2	11.5	12.2	0.2	12.2			
PLAY	14.9	4.6	14.2	5.1	14.9	5.7	5.1	5.1	4.4	12.2	12.2	11.4	12.2	0.2	12.2			
REC	14.8	4.6	14.2	5.1	14.8	5.7	5.1	5.1	4.3	12.1	12.0	11.4	12.0	11.8	11.3			
F.F	14.9	14.8	14.1	5.1	14.8	5.7	5.1	5.1	4.3	12.2	12.2	11.4	12.2	0.2	12.1			
REW	14.8	13.4	14.1	5.1	14.8	5.7	5.1	5.0	4.3	12.2	12.2	11.4	12.2	0.2	12.2			
REF. NO.	QR2002			QR2003						QR6001						QR6003		
MODE	E	C	B	1	2	3	4	5		1	2	3	4	5		E	C	B
STOP	5.2	0.3	5.1	0	0	5.1	0	5.1		0	0	5.1	0	5.1		0	12.8	0.1
PLAY	5.2	0.3	5.1	0	0	5.1	0	5.1		0	0	5.1	0	5.1		0	12.8	0.1
REC	5.2	0.3	5.1	0	0	5.1	0	5.1		0	0	5.1	0	5.1		0	12.8	0.1
F.F	5.2	0.3	5.1	0	0.7	0	0	0		14.8	10.6	0	0	0		0	12.8	0.1
REW	5.2	0.3	5.1	0	1.7	0	0	0		14.8	10.4	0	0	0		0	12.8	0.1
REF. NO.	QR6004																	
MODE	E	C	B															
STOP	0	11.7	0															
PLAY	0	12.1	0															
REC	3.6	3.8	5.1															
F.F	0.8	12.1	0															
REW	0	12.1	0															

4-4. LUMINANCE/CHROMINANCE & AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

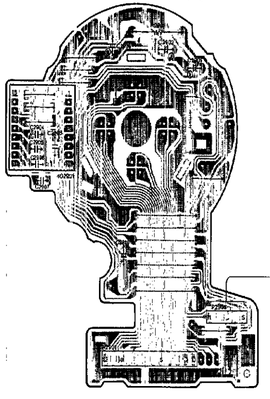
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

* LINE IN SIGNAL LEVEL ... – 10 dB 1 kHz

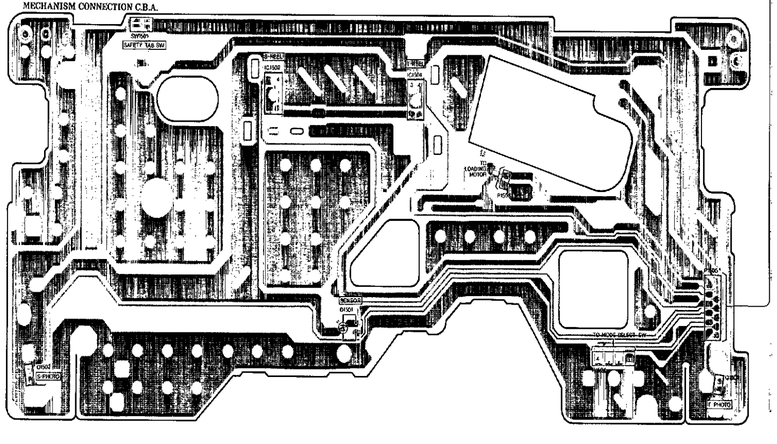
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-5. MAIN C.B.A. (VEP03A88C)

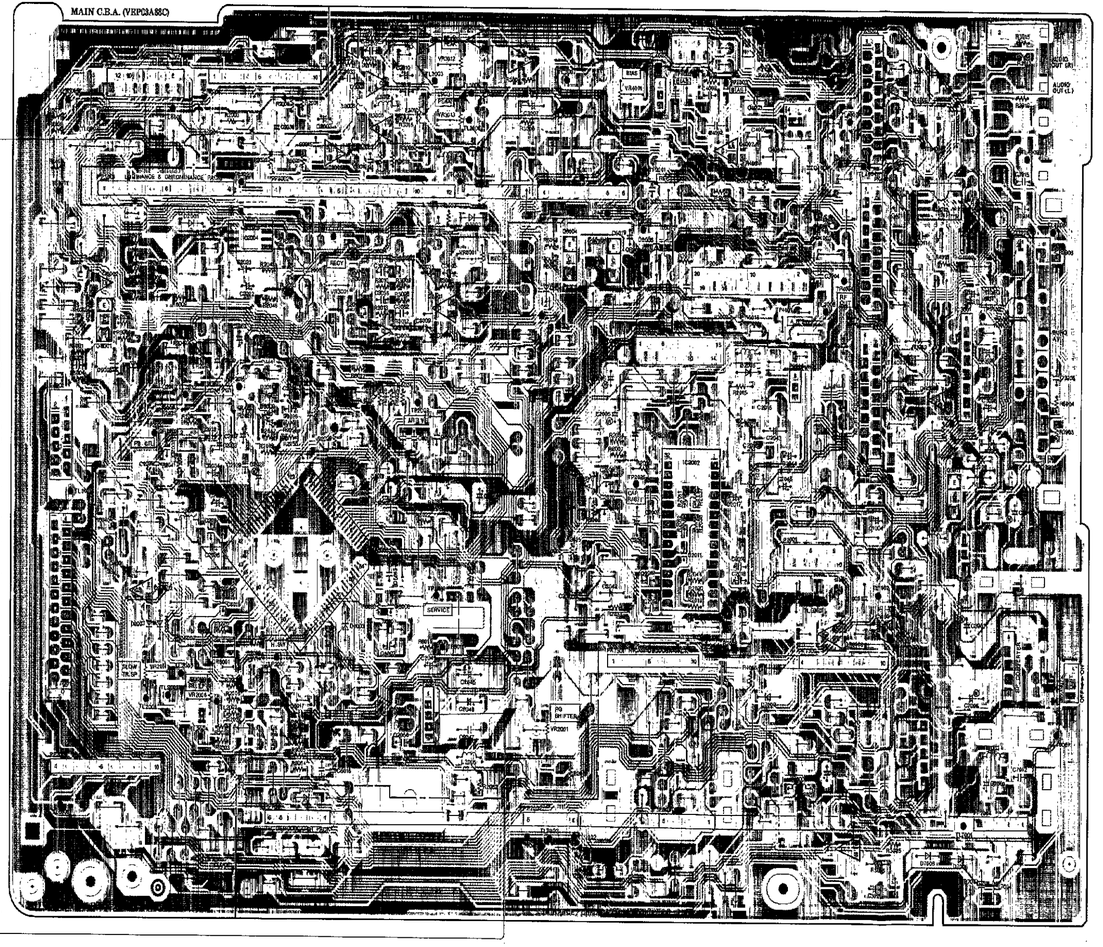
CYLINDER DRIVE C.B.A. (VEX0128)



MECHANISM CONNECTION C.B.A.



MAIN C.B.A. (VEP03A88C)



4—17

4—18

4—19

MAIN C.B.A. ADDRESS INFORMATION

SYSTEM CONTROL & SERVO SECTION	
Transistor	
Q1501	A-7
Q1502	A-1
Q6001	E-8
Q6002	E-8
Q6004	E-12
Q6005	E-13
Transistor & Resistor	
QR2002	C-6
QR2003	D-9
QR5001	C-9
QR5003	C-15
QR5004	E-13
Integrated Circuit	
IC1501	C-4
IC1502	C-3
IC2001	G-10
IC2002	D-13
IC2004	E-10
IC2101	F-5
IC6001	C-10
Test Point	
TP2001	C-10
TP2002	D-9
TP2009	D-11
TP2015	D-10
TP2026	D-13
TP6010	C-11
TP6011	C-11
Adjustment	
VR2001	B-12
VR2006	B-9
VR2011	C-9
Connector	
P1503	B-5
P1504	A-5
P1505	B-7
P2001	B-11
P2002	E-13
P2003	E-14
P2901	E-5
P2902	E-6
P6001	C-8
P6002	D-8
P6004	G-9
PP7006	B-8

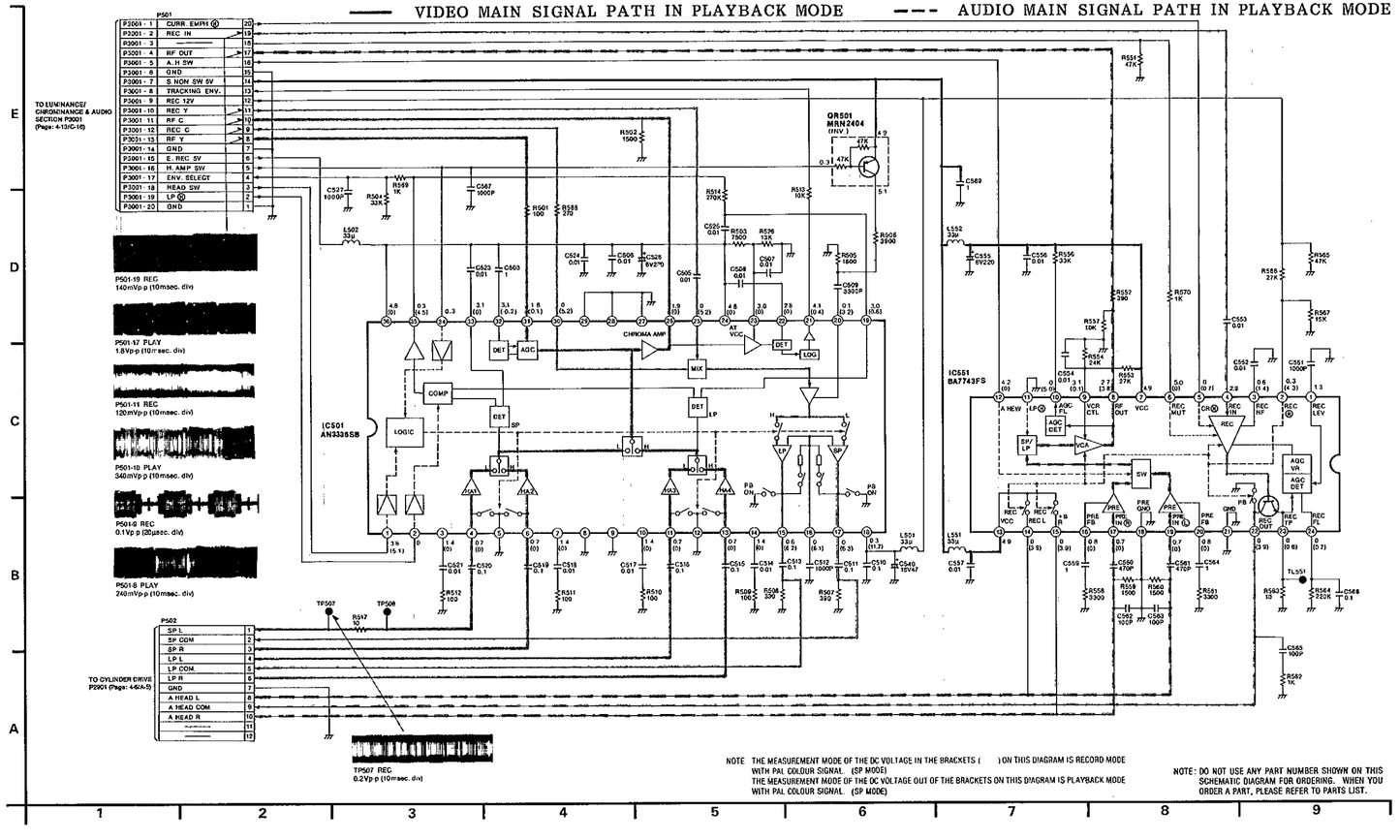
ADDRESS INFORMATION

LUMINANCE/ CHROMINANCE & AUDIO SECTION	
Transistor	
Q1601	C-15
Q3001	E-11
Q3002	E-11
Q3003	A-15
Q3005	F-10
Q3006	F-11
Q3007	G-10
Q3008	G-11
Q3010	G-12
Q3011	D-16
Q4002	F-14
Q4003	G-14
Transistor & Resistor	
QR3001	F-14
QR3002	G-12
QR3003	G-11
QR3006	D-15
QR4002	F-15
Integrated Circuit	
IC3001	E-16
IC4002	F-15
Test Point	
TP3001	F-13
TP3002	E-16
TP4001	E-14
TP4002	G-13
TP4003	G-14
TP4004	E-15
Adjustment	
VR3001	E-10
VR3012	G-11
VR3013	F-11
VR4001	G-13
VR4001	E-12
Connector	
P1001	C-14
P3001	E-14
P4001	G-13
P4002	F-13
PK4001	G-15
PK4002	F-15
PK4003	E-15
PK7301	C-13
PK7302	C-14
PP3001	F-9
PP3002	F-10
PP3003	F-12
PP7001	B-10
PP7002	B-12
PP7003	B-13
PP7004	B-16
PP7005	C-16

ADDRESS INFORMATION

4-6. HEAD AMP SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



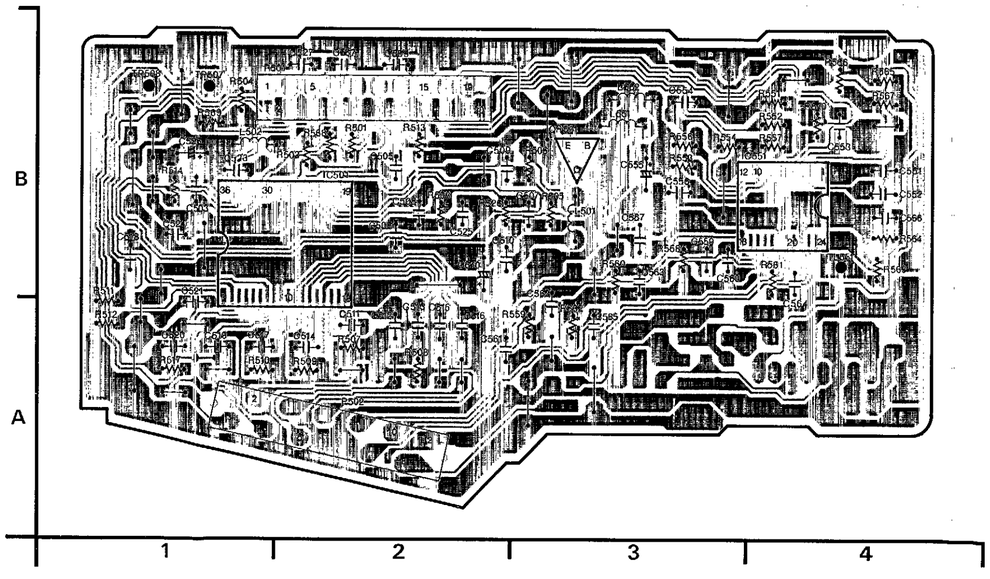
NOTE THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-7. HEAD AMP C.B.A. (VEP05176C)

HEAD AMP C.B.A.	
Transistor & Resistor	
QR501	B-3
Integrated Circuit	
IC501	B-1
IC551	B-4
Test Point	
TL551	B-4
TP507	B-1
TP508	B-1
Connector	
P501	B-2
P502	A-1

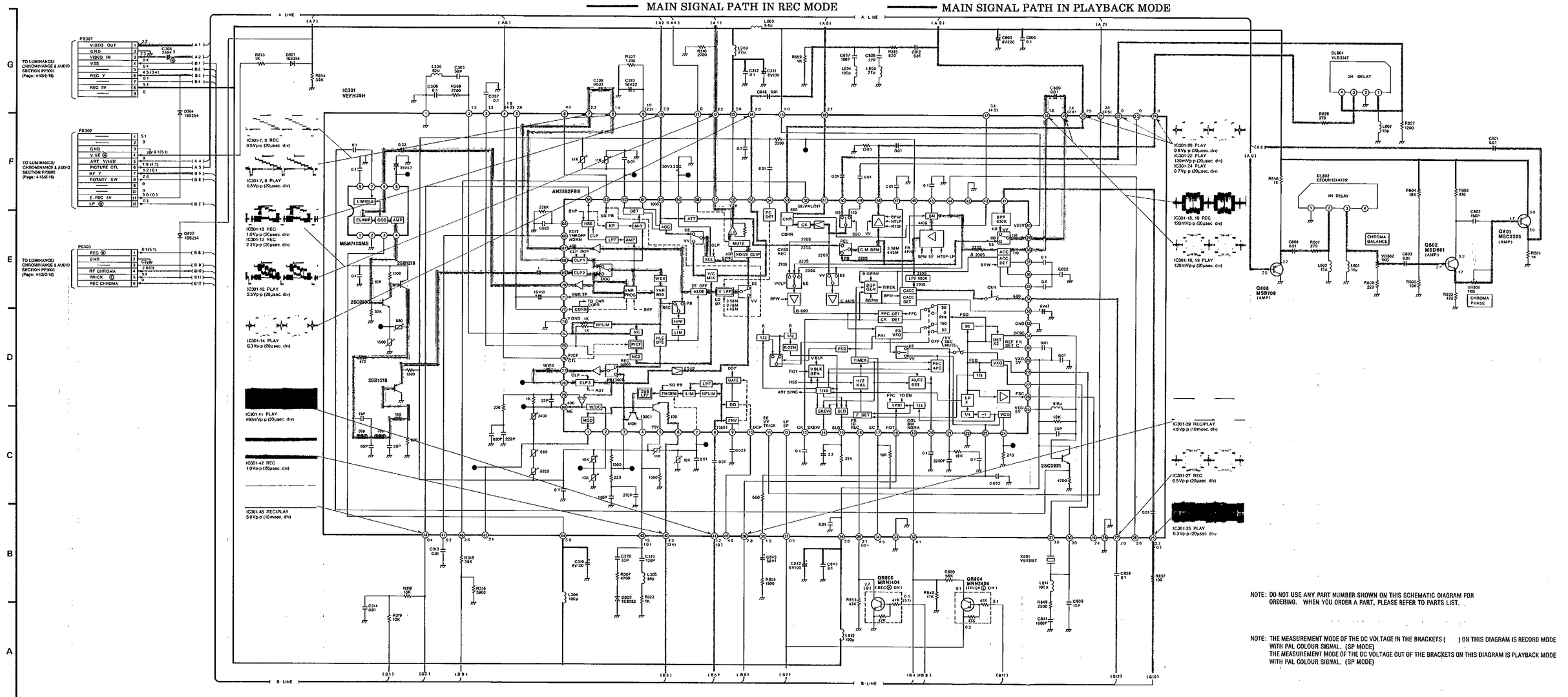
ADDRESS INFORMATION



4-8. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

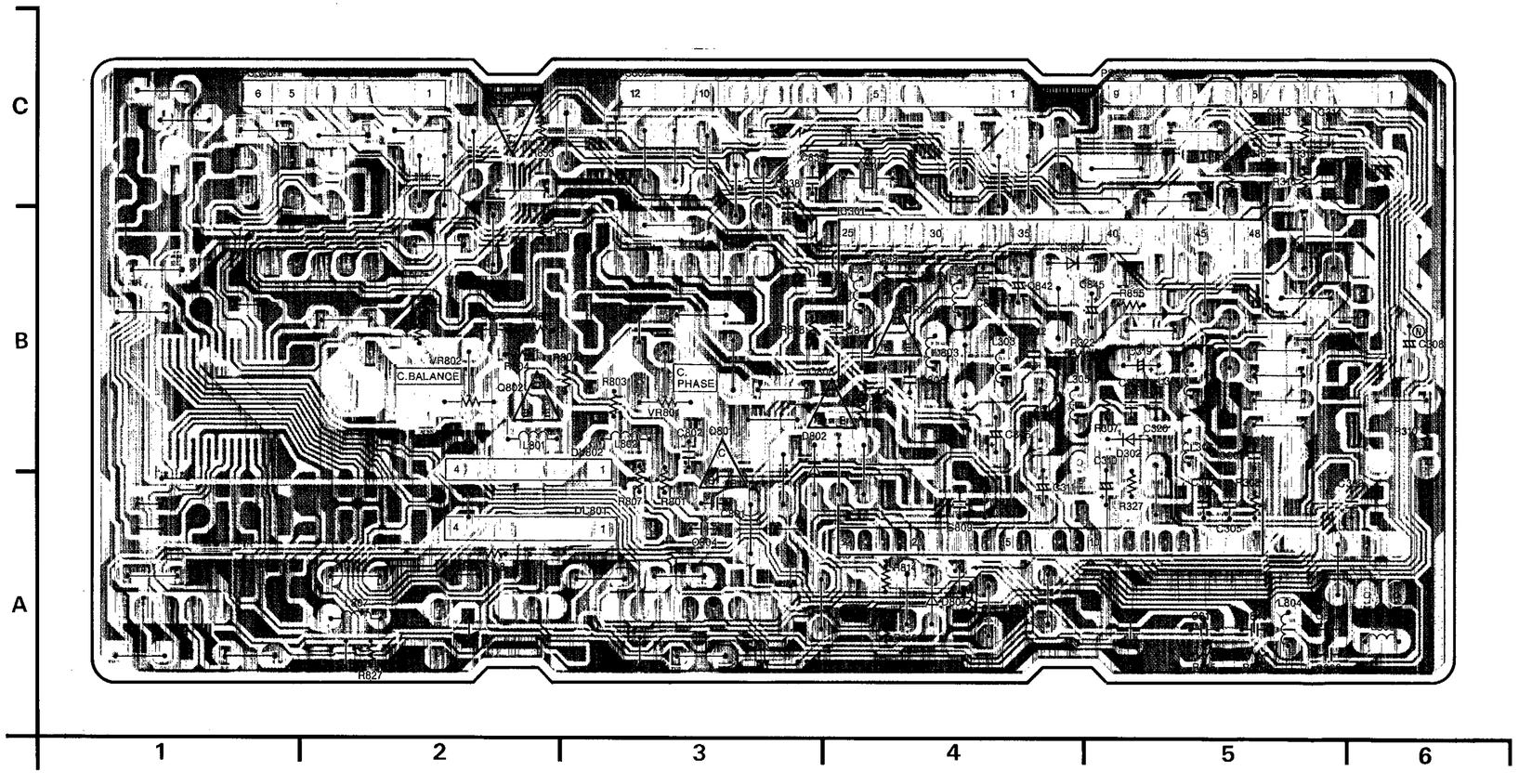
MAIN SIGNAL PATH IN PLAYBACK MODE


TO LUMINANCE/CHROMINANCE & AUDIO SECTION P73001 (Page: 4-10/E-16)
TO LUMINANCE/CHROMINANCE & AUDIO SECTION P73002 (Page: 4-10/E-16)
TO LUMINANCE/CHROMINANCE & AUDIO SECTION P73003 (Page: 4-10/D-16)
IC301 VEFH29H
AN3552FBS
M5M7403MS
2SB1218
2SC3931
IC301-7, 8 REC 0.5Vp-p (20μsec. div)
IC301-7, 8 PLAY 0.5Vp-p (20μsec. div)
IC301-10 REC 1.0Vp-p (20μsec. div)
IC301-12 REC 2.1Vp-p (20μsec. div)
IC301-12 PLAY 2.5Vp-p (20μsec. div)
IC301-14 PLAY 0.3Vp-p (20μsec. div)
IC301-41 PLAY 450mVp-p (20μsec. div)
IC301-42 REC 1.0Vp-p (20μsec. div)
IC301-45 REC/PLAY 5.0Vp-p (10msec. div)
IC301-20 PLAY 0.8Vp-p (20μsec. div)
IC301-22 PLAY 120mVp-p (20μsec. div)
IC301-24 PLAY 0.7Vp-p (20μsec. div)
IC301-18, 19 REC 120mVp-p (20μsec. div)
IC301-18, 19 PLAY 120mVp-p (20μsec. div)
IC301-39 REC/PLAY 4.8Vp-p (10msec. div)
IC301-27 REC 0.5Vp-p (20μsec. div)
IC301-25 PLAY 0.3Vp-p (20μsec. div)
DL801 VLD3147
2H DELAY
DL802 EFDUN124A13N
1H DELAY
Q801 MSC2295 (AMP)
Q802 MSD601 (AMP)
Q803 MSB709 (AMP)
CHROMA BALANCE
CHROMA PHASE
QR805 MRN4404 (REC ON)
QR804 MRN2404 (PB ON)
A LINE
B LINE

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

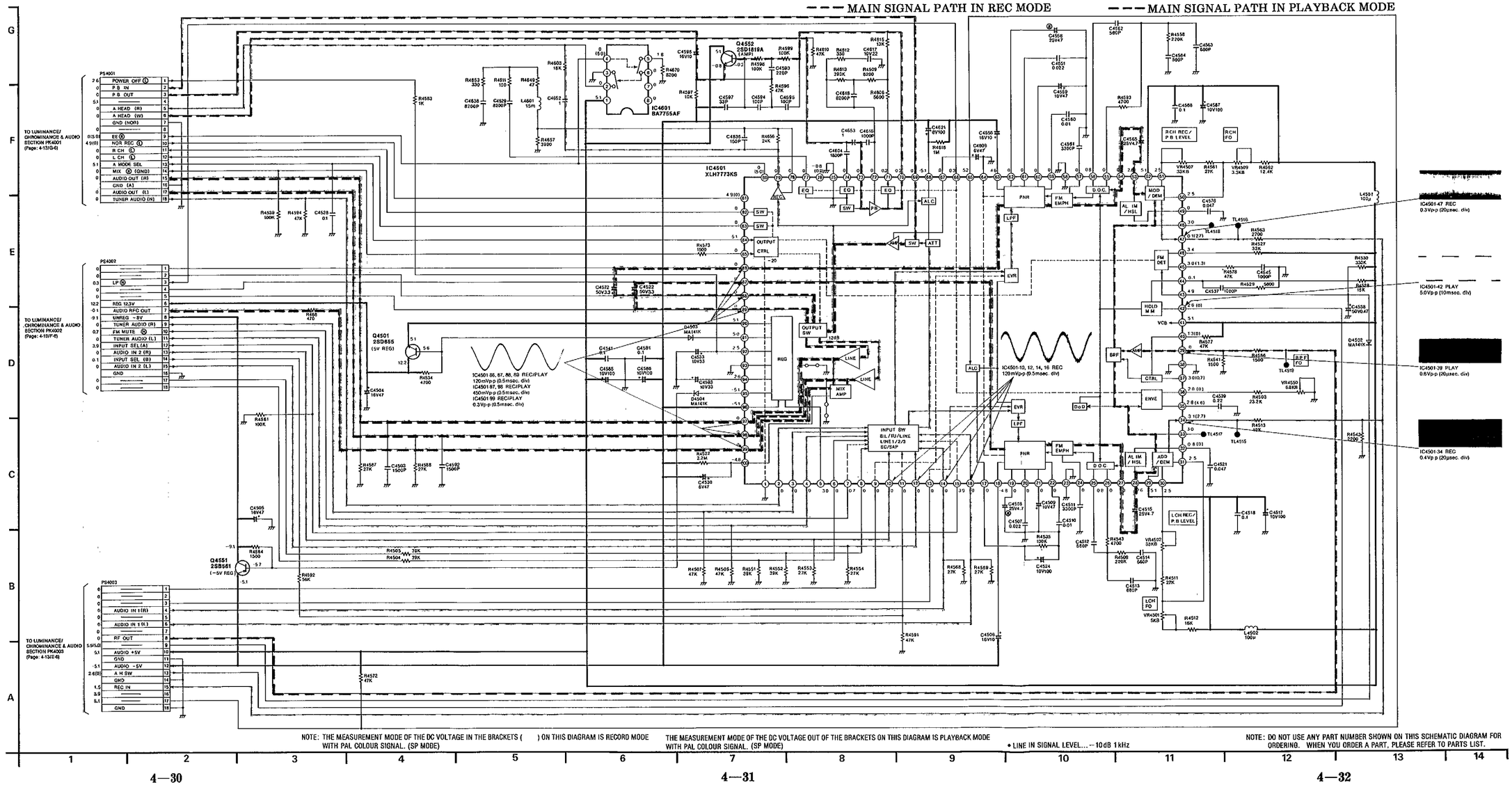
4-9. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03975V)



LUMINANCE & CHROMINANCE PACK C.B.A.	
Transistor	
Q801	B-3
Q802	B-2
Q808	B-4
Transistor & Resistor	
QR804	B-4
QR805	C-2
Integrated Circuit	
IC301	B-4
Adjustment	
VR801	B-3
VR802	B-2
Connector	
PS301	C-5
PS302	C-3
PS303	C-1

ADDRESS INFORMATION

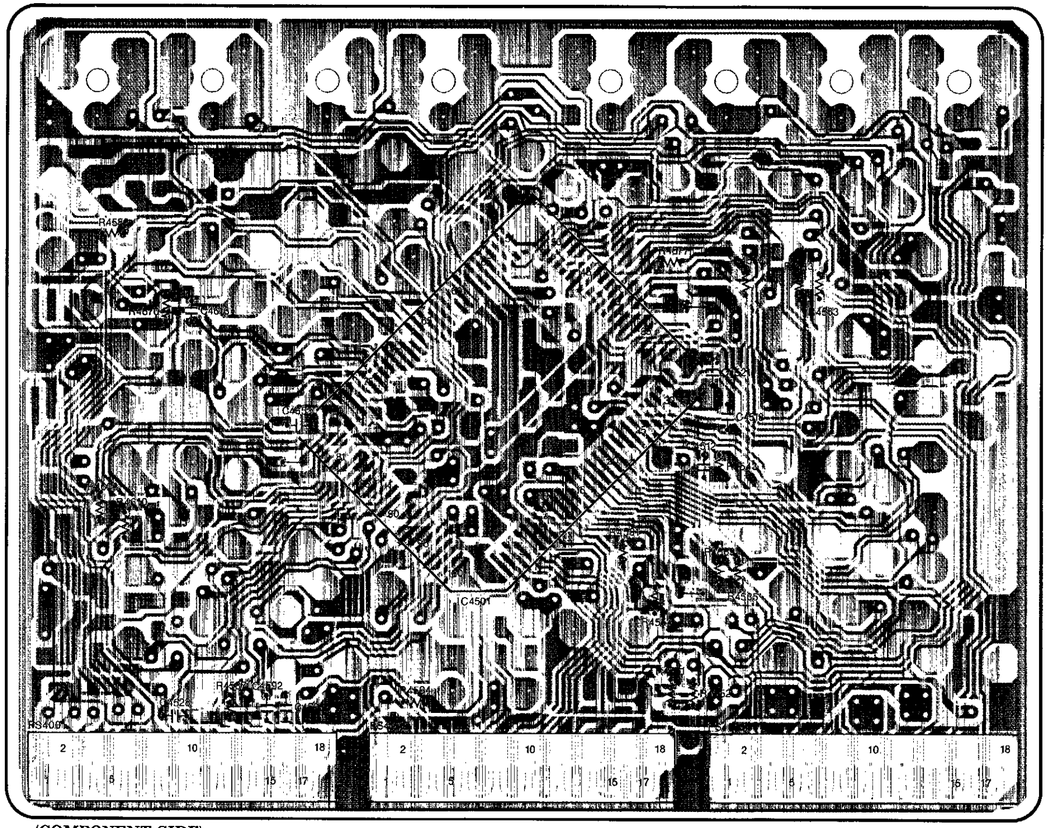
4-10. Hi-Fi AUDIO PACK SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
PS4001
PS4002
PS4003
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PK4001 (Page: 4-13/G-6)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PK4002 (Page: 4-13/F-6)
TO LUMINANCE/ CHROMINANCE & AUDIO SECTION PK4003 (Page: 4-13/E-6)
POWER OFF
P.B IN
P.B OUT
A HEAD (R)
A HEAD (W)
GND (NOR)
EE
NOR REC
R CH
L CH
A MODE SEL
MIX (GND)
AUDIO OUT (R)
GND (A)
AUDIO OUT (L)
TUNER AUDIO (N)
LP
REG 12.3V
AUDIO REC OUT
UNREG +8V
TUNER AUDIO (R)
FM MUTE
TUNER AUDIO (L)
INPUT SEL (A)
AUDIO IN 2 (R)
INPUT SEL (B)
AUDIO IN 2 (L)
GND
AUDIO IN 1 (R)
AUDIO IN 1 (L)
RF OUT
AUDIO +5V
GND
AUDIO -5V
A.H SW
GND
REC IN
GND
IC4501 XLH7773KS
IC4601 BA7755AF
Q4501 2SD855 (5V REG)
Q4551 2SB561 (-5V REG)
Q4552 2SD1819A (AMP)
IC4501-47 REC 0.3Vp-p (20μsec. div)
IC4501-42 PLAY 5.0Vp-p (10msec. div)
IC4501-29 PLAY 0.6Vp-p (40μsec. div)
IC4501-34 REC 0.4Vp-p (20μsec. div)
IC4501-10, 12, 14, 16 REC 120mVp-p (0.5msec. div)
IC4501-86, 87, 88, 89 REC/PLAY 120mVp-p (0.5msec. div)
IC4501-97, 98 REC/PLAY 450mVp-p (0.5msec. div)
IC4501-99 REC/PLAY 0.3Vp-p (0.5msec. div)
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)
• LINE IN SIGNAL LEVEL... –10dB 1kHz
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

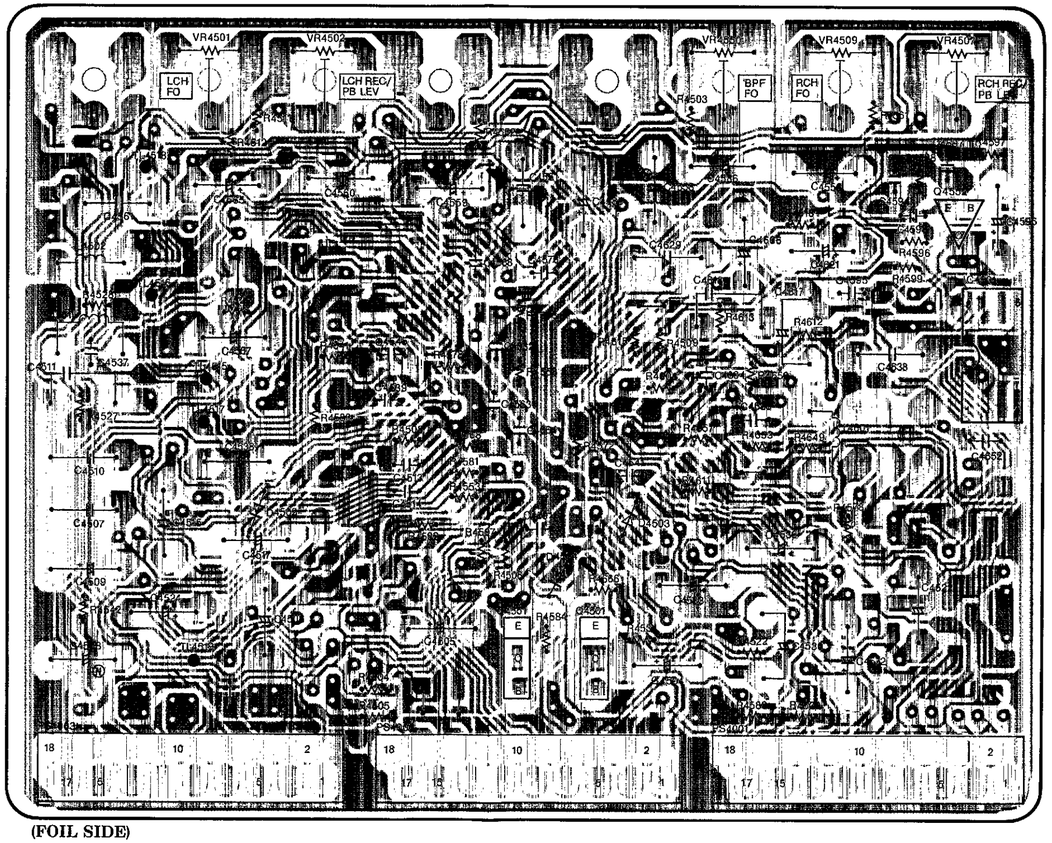
4-11. Hi-Fi AUDIO PACK C.B.A. (VEP04447PG)

Hi-Fi AUDIO PACK C.B.A.	
Translator	
Q4501	A-7
Q4551	A-7
Q4552	C-9
Integrated Circuit	
IC4501	B-3
IC4601	C-9
Adjustment	
VR4501	D-6
VR4502	D-6
VR4507	D-9
VR4509	D-9
VR4550	D-8
Connector	
PS4001	A-1
PS4001	A-8
PS4002	A-2
PS4002	A-7
PS4003	A-4
PS4003	A-5

ADDRESS INFORMATION

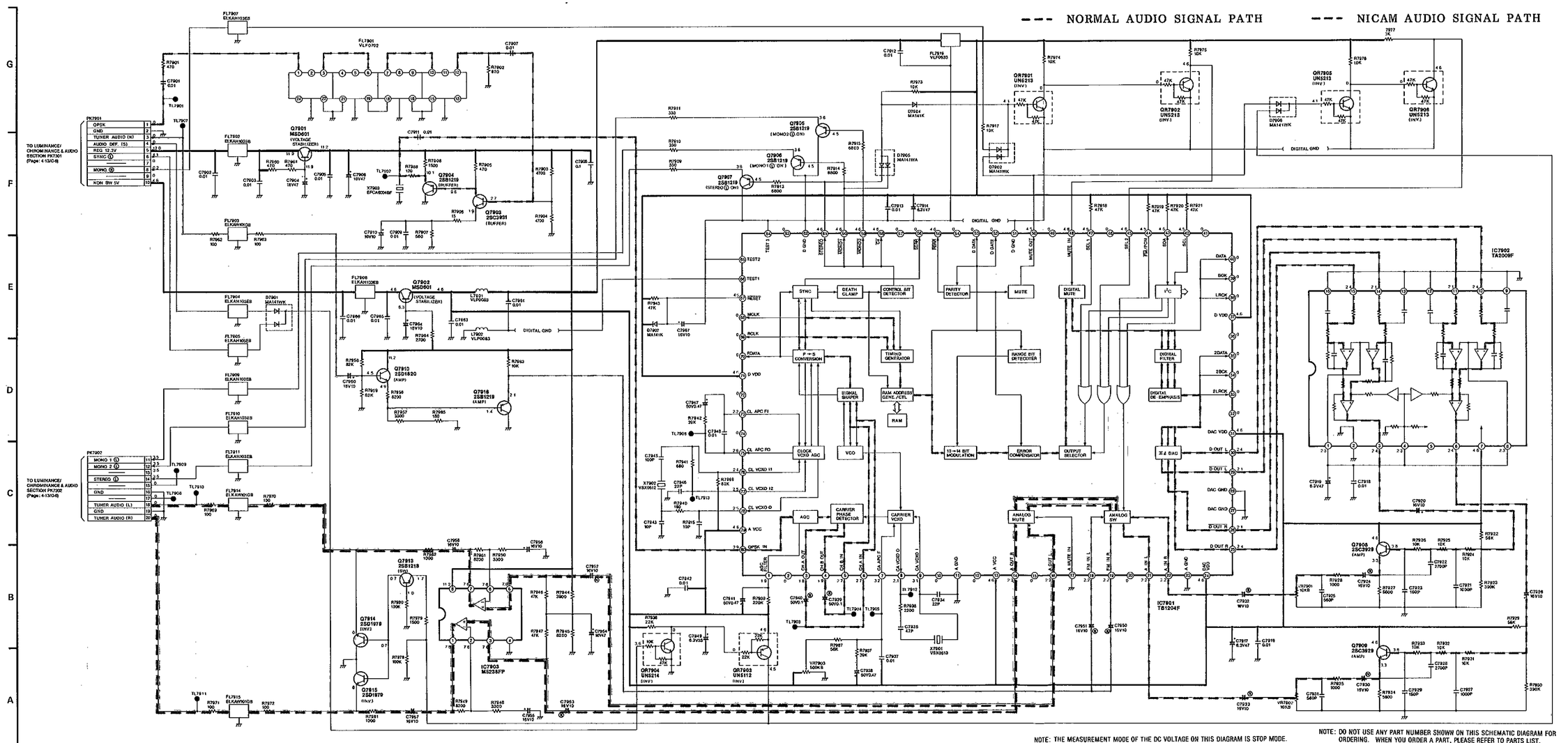


(COMPONENT SIDE)



(FOIL SIDE)

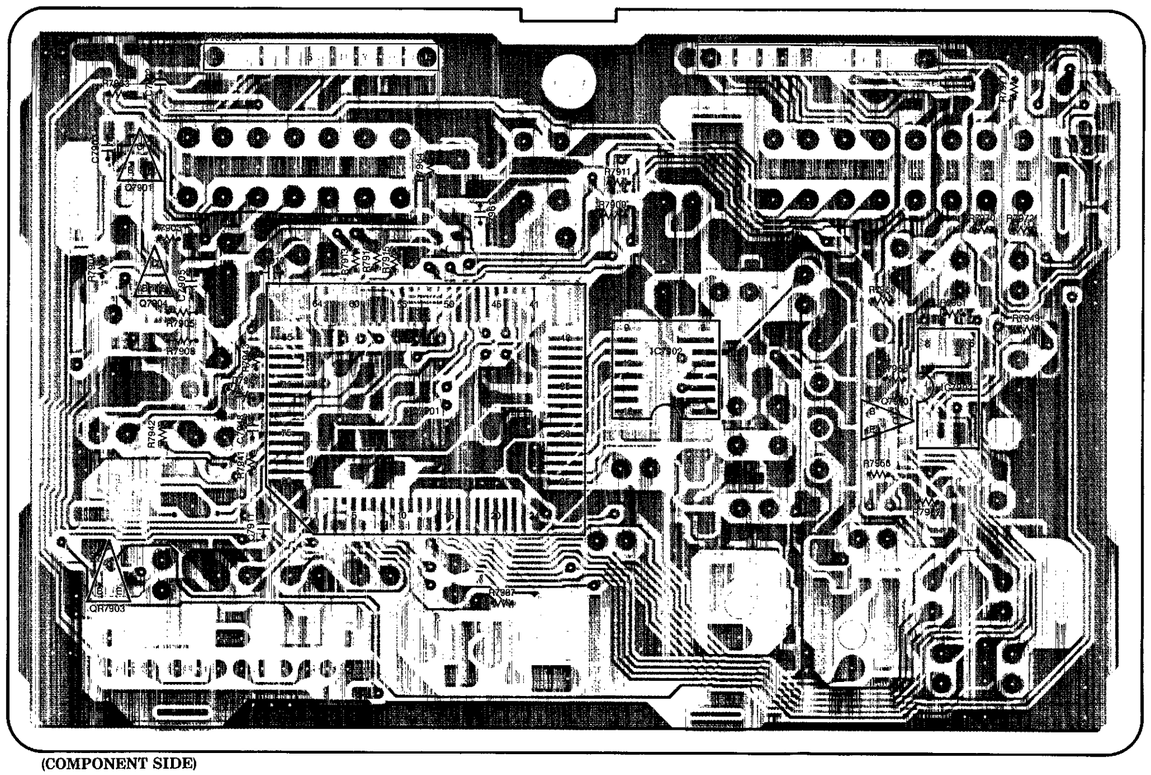
4-12. NICAM DECODER PACK SCHEMATIC DIAGRAM


NORMAL AUDIO SIGNAL PATH
NICAM AUDIO SIGNAL PATH
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.
IC7901 TB1204F
IC7902 TA2009F
IC7903 M5258FP
4—36
4—37
4—38

4-13. NICAM DECODER PACK C.B.A. (VEP07675A)

NICAM DECODER PACK C.B.A.							
Transistor		Q7910	B-4	QR7904	A-10	**Adjustment**	
Q7901	C-1	Q7913	C-8	QR7905	B-9	VR7901	A-8
Q7902	C-9	Q7914	C-8	QR7906	B-9	VR7902	A-7
Q7903	C-10	Q7915	C-8			VR7903	A-8
Q7904	C-1	Q7916	B-7	**Integrated Circuit**		**Connector**	
Q7905	C-9	**Transistor & Resistor**		IC7901	B-2	PK7901	D-2
Q7906	C-9	QR7901	B-9	IC7902	B-3	PK7901	D-9
Q7907	C-9	QR7902	B-9	IC7903	B-5	PK7902	D-4
Q7908	B-8	QR7903	A-1			PK7902	D-7
Q7909	B-7						

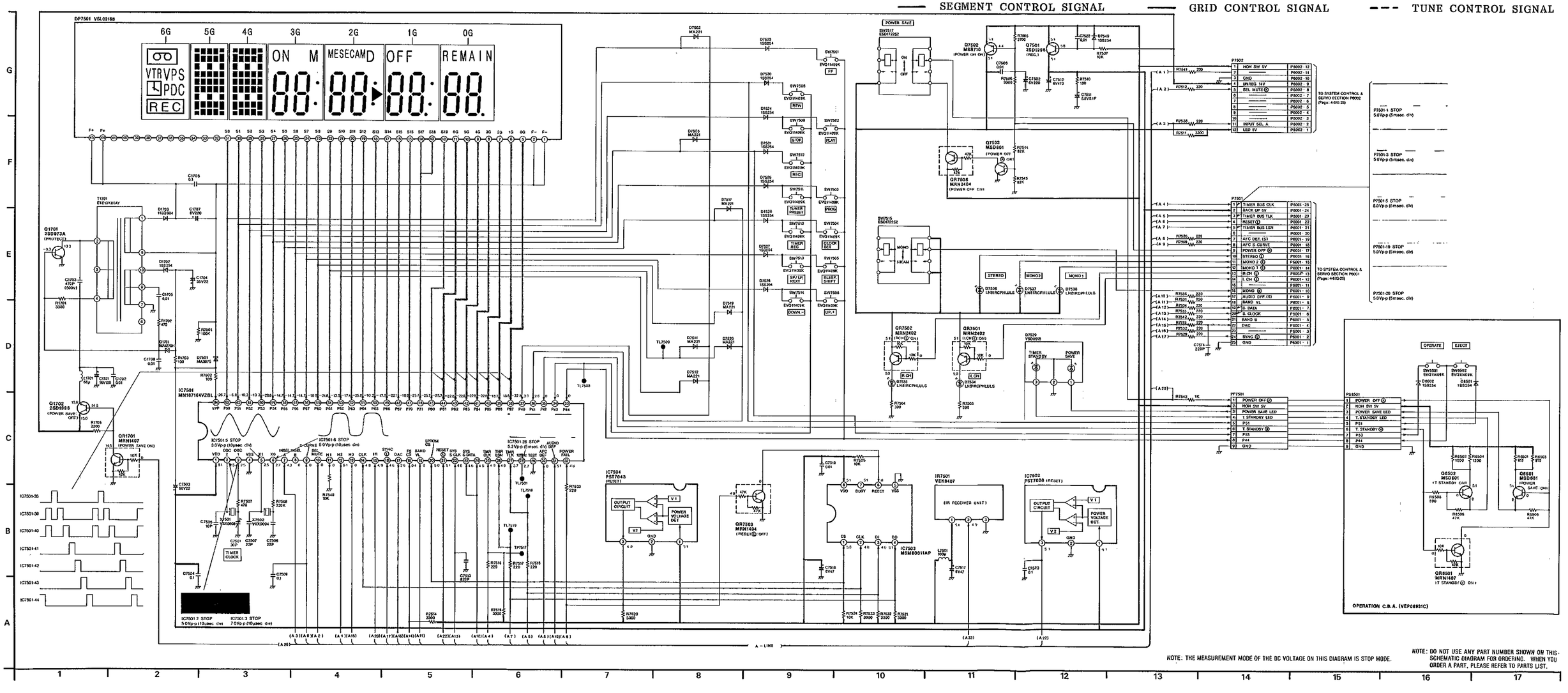
ADDRESS INFORMATION



(COMPONENT SIDE)

(FOIL SIDE)

4-14. TIMER & OPERATION SCHEMATIC DIAGRAM

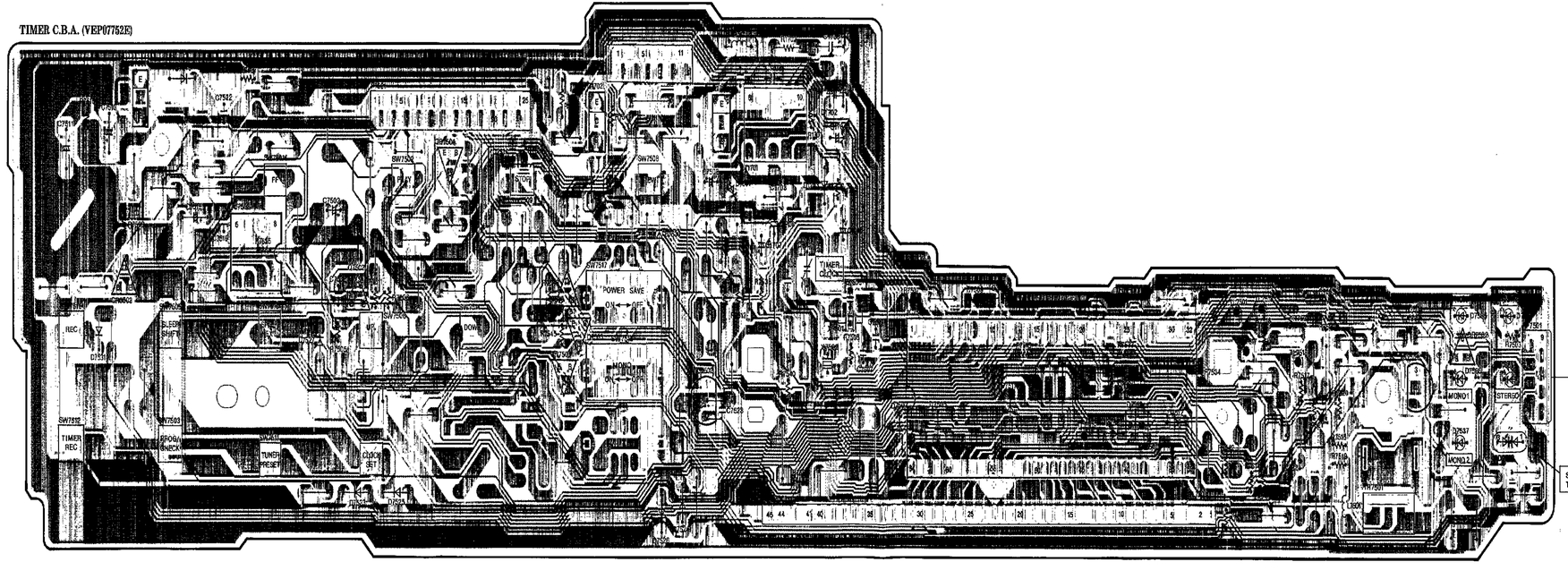

SEGMENT CONTROL SIGNAL
GRID CONTROL SIGNAL
TUNE CONTROL SIGNAL
DP7501 VSL0168
6G 5G 4G 3G 2G 1G 0G
VTR VPS PDC REC
ON M MESECAM D OFF REMAIN
IC7501 MN187164V2BL
IC7501-5 STOP 3.0Vp-p (10μsec. div)
IC7501-6 STOP 5.0Vp-p (10μsec. div)
IC7501-28 STOP 5.2Vp-p (5msec. div)
IC7501-2 STOP 5.0Vp-p (10μsec. div)
IC7501-3 STOP 7.0Vp-p (10μsec. div)
IC7501-36
IC7501-38
IC7501-40
IC7501-41
IC7501-42
IC7501-43
IC7501-44
IC7504 PST7643 (RESET)
IC7502 PST7028 (RESET)
IR7501 VEK6407 (IR RECEIVER UNIT)
IC7503 M66M80011AP
POWER SAVE
TO SYSTEM CONTROL & SERVO SECTION P8002 (Page: 4-6/2-25)
TO SYSTEM CONTROL & SERVO SECTION P8001 (Page: 4-6/3-25)
P7501-1 STOP 5.0Vp-p (5msec. div)
P7501-3 STOP 5.0Vp-p (5msec. div)
P7501-5 STOP 5.0Vp-p (5msec. div)
P7501-19 STOP 5.0Vp-p (5msec. div)
P7501-20 STOP 5.0Vp-p (5msec. div)
OPERATE
EJECT
OPERATION C.B.A. (VEP08931C)
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-15. TIMER C.B.A. (VEP07752E) & OPERATION C.B.A. (VEP06931A)

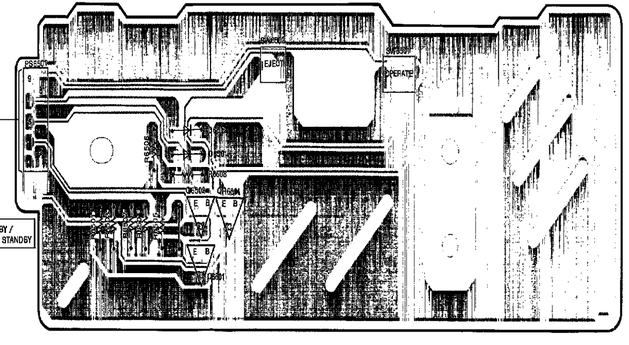
TIMER C.B.A. & OPERATION C.B.A.					
Transistor		Q7001	C-4	**Connector**	
Q1701	C-6	Q7002	B-12	P7501	C-4
Q1702	C-5	Q7003	B-2	P7502	C-5
Q6501	A-14	Q7506	B-6	P7701	B-12
Q6502	A-14	**Integrated Circuit**		PS5501	B-13
Q7501	C-2	IC7501	B-8		
Q7502	B-3	IC7502	B-8		
Q7503	B-5	IC7503	B-2		
Transistor & Resistor		IC7504	B-11		
QR1701	B-5	**Adjustment**			
QR6501	A-14	C7501	B-7		

ADDRESS INFORMATION

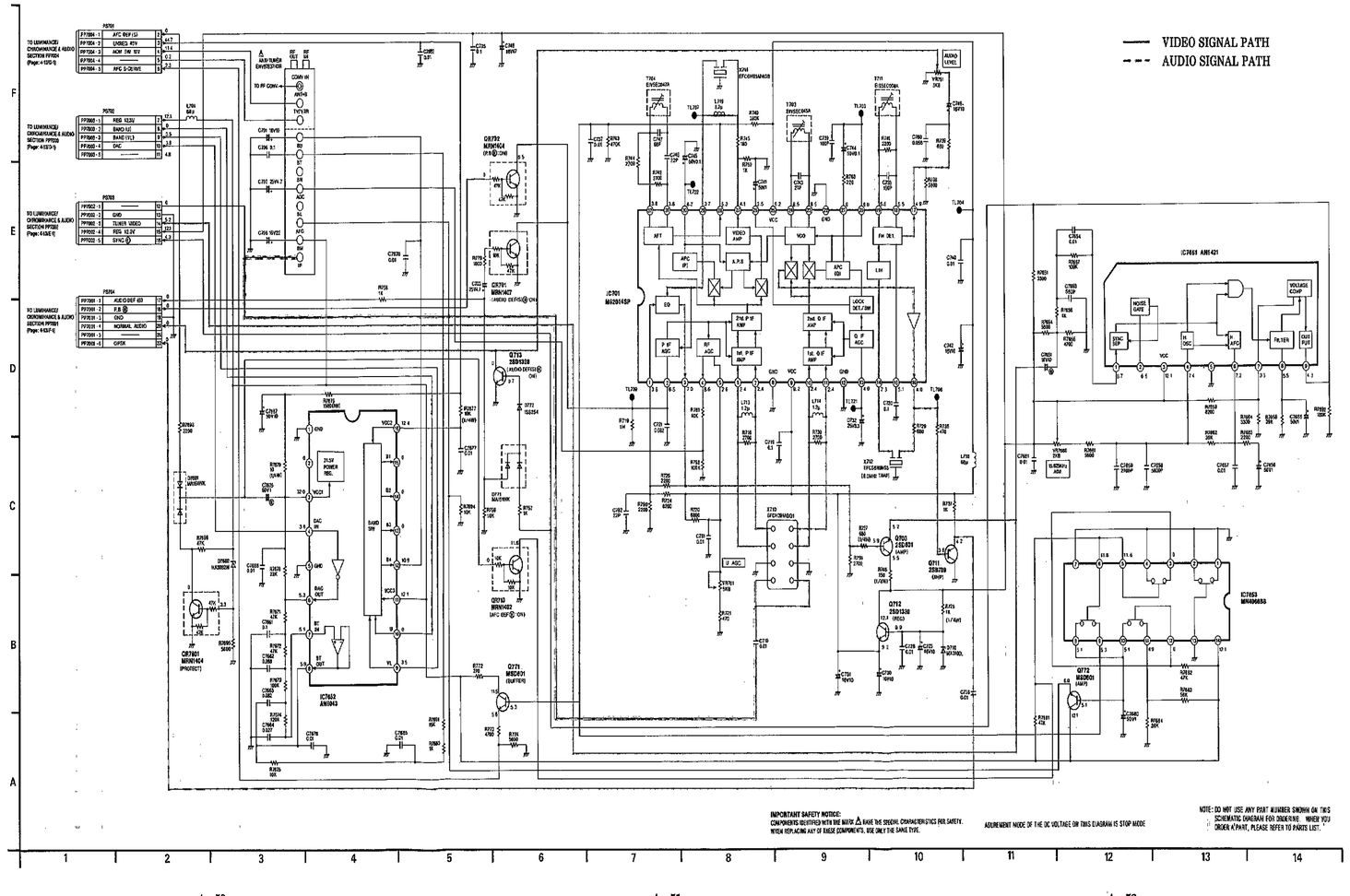
TIMER C.B.A. (VEP07752E)



OPERATION C.B.A. (VEP06931C)



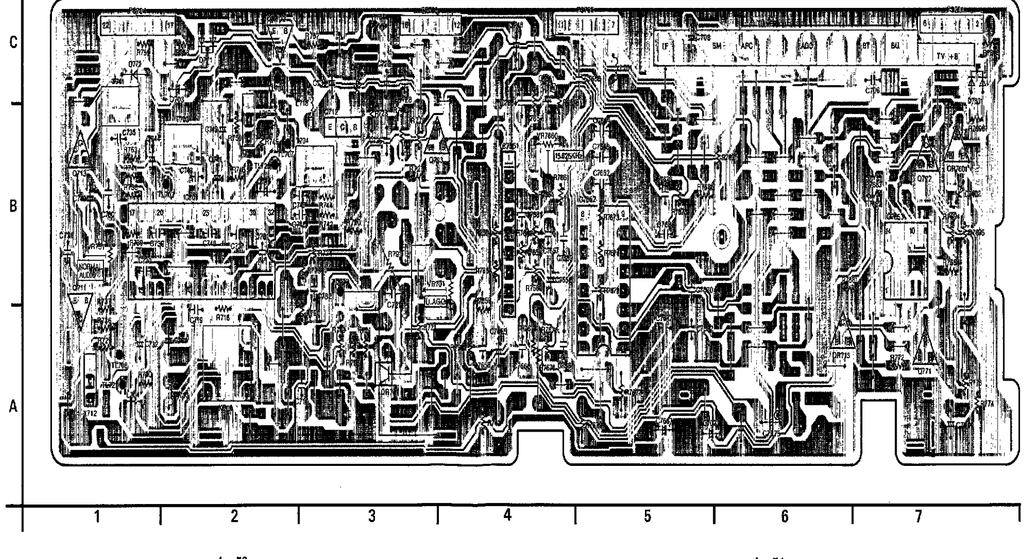
4-16. TV DEMODULATOR PACK SCHEMATIC DIAGRAM


VIDEO SIGNAL PATH
AUDIO SIGNAL PATH
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.
ADJUSTMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4-17. TV DEMODULATOR PACK C.B.A. (VEP07680G)

TV DEMODULATOR PACK C.B.A.			
Transistor		**Adjustment**	
Q700	B-3	T765	B-2
Q711	B-1	T764	B-3
Q712	B-3	T711	C-1
Q713	B-1	VR701	B-4
Q771	A-7	VR751	B-1
Q772	B-7	VR7680	B-4
Transistor & Resistor		**Connector**	
QR701	A-3	PS701	C-7
QR702	C-2	PS702	C-5
QR713	A-6	PS703	C-3
QR7651	B-7	PS704	C-1
Integrated Circuit			
IC701	B-2		
IC7651	B-4		
IC7652	B-5		
IC7653	B-7		

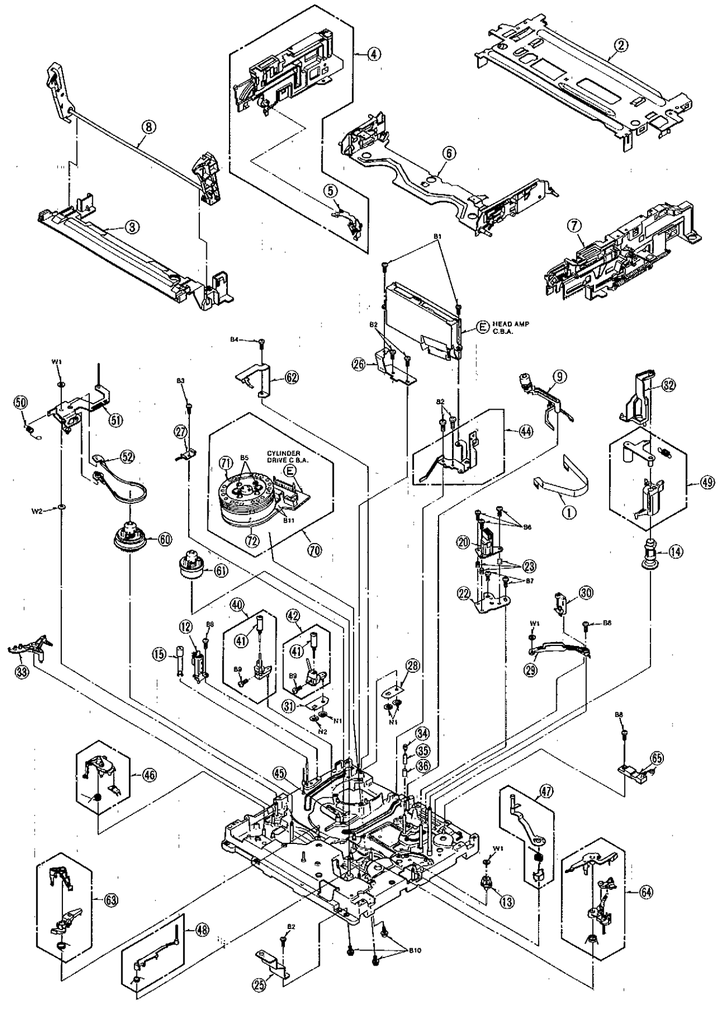
ADDRESS INFORMATION



SECTION 5
EXPLODED VIEWS & PARTS LIST

5-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST

❶ CHASSIS PARTS SECTION (1)



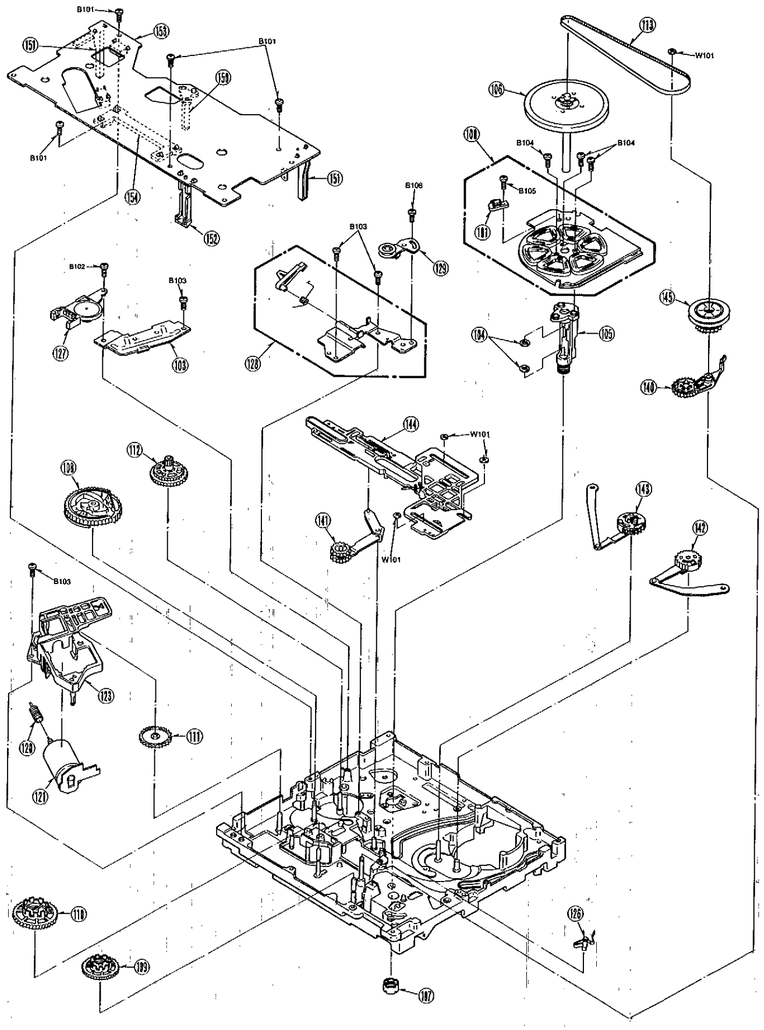
Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark ⟨!⟩ have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VMJ0758	FLEXIBLE CABLE (6P)	1	P4003-P1501
2(1)		VMA8644	TOP PLATE	1	
3(1)		VMA8787	CASSETTE GUIDE	1	
4(1)		VXA4660	SIDE PLATE (L) UNIT	1	
5(1)		VXL2250	OPENER LEVER UNIT	1	
6(1)		VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7(1)		VXA4806	SIDE PLATE (R) UNIT	1	
8(1)		VXP1339	MAIN SHAFT UNIT	1	
9(1)		VXL2251	CLEANER ARM UNIT	1	
12(1)		VBS0050	PF HEAD	1	
13(1)		VDG0971	CARRIAGE CONNECTION GEAR	1	
14(1)		VDG0885	PINCH CAM GEAR	1	
15(1)		VXP1402	IMPEDANCE ROLLER UNIT	1	
20(1)		VEB0205	A/C HEAD (1) UNIT	1	
22(1)		VMA8624	A/C HEAD BASE	1	
23(1)		VMB2515	A/C HEAD SPRING	3	
25(1)		VMA8761	MOUNT ANGLE	1	
26(1)		VMA8763	HEAD AMP MOUNT ANGLE (L)	1	
27(1)		VMC0917	EARTH SPRING	1	
28(1)		VMA8874	INCLIND BASE HOLDER (S)	1	
29(1)		VMD2078	P5 STOPPER BASE	1	
30(1)		VXA4927	P5 POST STOPPER	1	
31(1)		VMA8873	INCLIND BASE HOLDER (T)	1	
32(1)		VMD2101	OPENER PIECE	1	
33(1)		VML2776	TENSION SPRING ARM	1	
34(1)		VMX1544	P4 UPPER LIMITER	1	
35(1)		VMX2175	P4 SLEEVE	1	
36(1)		VMX2176	P4 LOWER LIMITER	1	
40(1)		VXA4982KIT	INCLINED BASE (S) UNIT	1	
41(1)		VXP1415	ROLLER POST	2	
42(1)		VXA4984KIT	INCLINED BASE (T) UNIT	1	
44(1)		VXA4974	HEAD AMP MOUNT ANGLE (R) U.	1	
45(1)		VMS5383	CASSETTE POSITION FIXTURR	1	
46(1)		VXL2310	REVIEW ARM UNIT	1	
47(1)		VXL2306	P5 ARM UNIT	1	
48(1)		VXL2243	TAKE UP TENSION REGULATOR ARM UNIT	1	
49(1)		VXL2246	PINCH ARM UNIT	1	
50(1)		VMB2434	TENSION SPRING	1	
51(1)		VXL2309	TENSION ARM (1) UNIT	1	
52(1)		VXP0310	TENSION BAND UNIT	1	
60(1)		VXP0221	SUPPLY REEL TABLE UNIT	1	
61(1)		VXP0222	TAKE UP REEL TABLE UNIT	1	
62(1)		VXS0113	EARTH PIATE	1	
63(1)		VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64(1)		VXZ0313	TAKE UP BRAKE ARM UNIT	1	
65(1)		2SB941PSW	POWER TRANSISTOR	1	
70(1)		VEG1113	CYLINDER UNIT	1	
71(1)		VEH0601	UPPER CYLINDER UNIT	1	
72(1)		VSC3940	CYLINDER SHIELD PLATE	1	
B1(1)		VHD0773	SCREW	2	
B2(1)		XTV26+6F	SCREW	5	
B3(1)		XTV26+4F	SCREW	1	
B4(1)		XTW3+6FFZ	SCREW	1	
B5(1)		VHD0553	SCREW	2	
B6(1)		VHD0762	SCREW	3	
B7(1)		XTV26+6FZ	SCREW	2	
B8(1)		XTV26+8F	SCREW	3	
B9(1)		VHD0760	SCREW	2	
B10(1)		VHD0342	SCREW	3	
B11(1)		XYNV0029	SCREW	2	
N1(1)		VHD0192	NUT	3	
N2(1)		VHD0193	NUT	1	
W1(1)		VMD2208	WASHER	3	
W2(1)		XWV26D5G	WASHER	1	

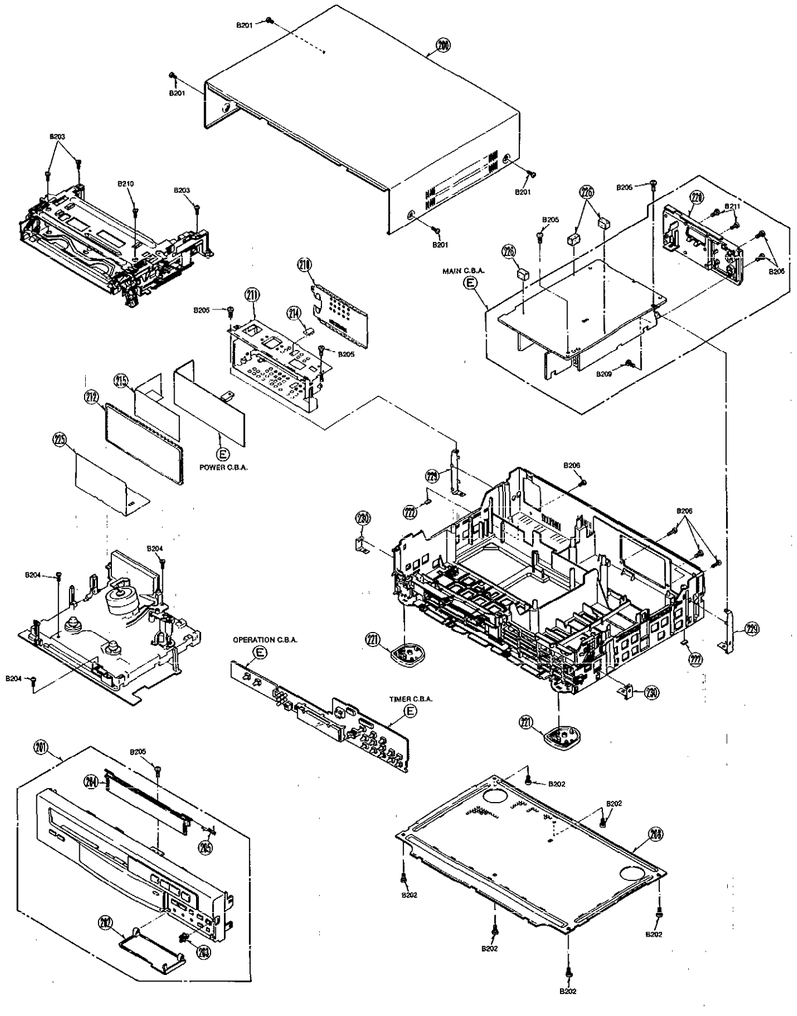
Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark ⟨!⟩ have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
100(2)		VBS5927	STATOR UNIT	1	
101(2)		VEH0061	FG HEAD	1	
103(2)		VMA8930	ROTOR STOPPER	1	
104(2)		VMX1927	OIL SEAL	2	
105(2)		VXD0140	HOUSING UNIT	1	
106(2)		VXP1350	ROTOR UNIT	1	
107(2)		VXQ0297	THRUST SCREW UNIT	1	
108(2)		VDG0913	MAIN CAM GEAR	1	
109(2)		VDG0956	SUPPLY REEL GEAR	1	
110(2)		VDG0957	TAKE UP REEL GEAR	1	
111(2)		VDG0868	WORM WHEEL GEAR	1	
112(2)		VDG0885	SUB CAM GEAR	1	
113(2)		VDV0235	TIMING BELT	1	
120(2)		VDG0866	WORM GEAR	1	
121(2)		VEM0427	LOADING MOTOR (1) UNIT	1	
123(2)		VMS1942	MOTOR BRACKET	1	
126(2)		VML2725	IDLER CONTROL LEVER	1	
127(2)		VSG0365	MODE SW	1	
128(2)		VXA5138	SS BRAKE BASE UNIT	1	
129(2)		VXA4799	TENSION ROLLER UNIT	1	
140(2)		VXL2366	IDLER ARM UNIT	1	
141(2)		VXL2372	DIRECT LEVER UNIT	1	
142(2)		VXL2299	SUPPLY LOADING ARM UNIT	1	
143(2)		VXL2300	TAKE UP LOADING ARM UNIT	1	
144(2)		VXL2307	MAIN LEVER UNIT	1	
145(2)		VXP1409	CENTRE CLUTCH	1	
150(2)		VMD1926	LED HOLDER	1	
151(2)		VMD1927	PHOTO TRANSISTOR HOLDER	2	
152(2)		VES0695	SAFETY TAB SW	1	
153(2)		VJB00563	MECHANISM CONNECTION C.B.	1	ELECTRICAL PARTS ON THE C.B.A. IS LISTED ON ELECTRICAL PARTS LIST.
154(2)		VMD2029	REEL SHAFT GUIDE	1	
B101(2)		VHD0772	SCREW	4	
B102(2)		XTV26+8F	SCREW	1	
B103(2)		XTV26+6F	SCREW	4	
B104(2)		VHD0753	SCREW	3	
B105(2)		VHD0754	SCREW	1	
B106(2)		XSB26+4FZ	SCREW	1	
W101(2)		VMX2208	WASHER	4	

❷ CHASSIS PARTS SECTION (2)



❸ CASING PARTS SECTION



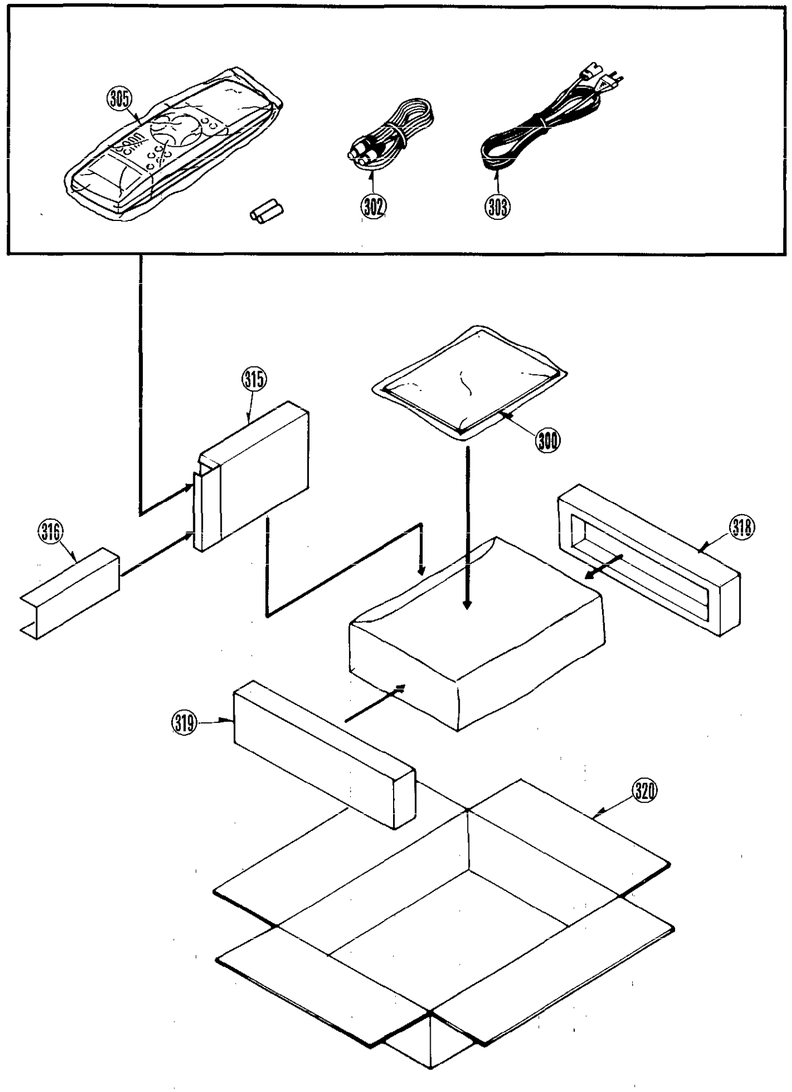
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
200(3)		VGM0980	TOP PANEL	1	
201(3)		VYP5600	FRONT PANEL UNIT	1	
202(3)		VKF2158	DOOR PANEL	1	
203(3)		VGQ0550	DOOR LOCK PIECE	1	
204(3)		VKF2123	BLINDER PANEL	1	
205(3)		VMB2521	BLINDER SPRING	1	
206(3)		VKU0374	BOTTOM PLATE	1	
210(3)		VSC3110	POWER SHIELD COVER (TOP)	1	
211(3)		VXA3571	POWER SHIELD COVER (MAIN)	1	
212(3)		VSC2237	POWER SHIELD COVER (BOTTOM)	1	
214(3)		VMC0357	IC HOLDER SPRING	1	
215(3)		VMZ2271	POWER BARRIER	1	<!>
220(3)		VJH0739	I/O JACK PLATE	1	
221(3)		VKA0157	LEG	2	
222(3)		VKA0122	FOOT	2	
225(3)		VMZ2213	SHIELD BARRIER	1	
226(3)		VMT0506	MAIN C.B.A. SPACER	3	
229(3)		VMP3820	SIDE ANGLE (REAR)	2	
230(3)		VMP3821	SIDE ANGLE (FRONT)	2	
B201(3)		XTW3+10TFZ	SCREW	4	
B202(3)		VHD0059	SCREW	6	
B203(3)		XTV26+8FR	SCREW	3	
B204(3)		VHD0168	SCREW	3	
B205(3)		VHD0773	SCREW	5	
B206(3)		XTV3+12JFZ	SCREW	6	
B209(3)		XTV3+6F	SCREW	1	
B210(3)		XTV26+10F	SCREW	1	
B211(3)		XTN4+10JFZ	SCREW	2	

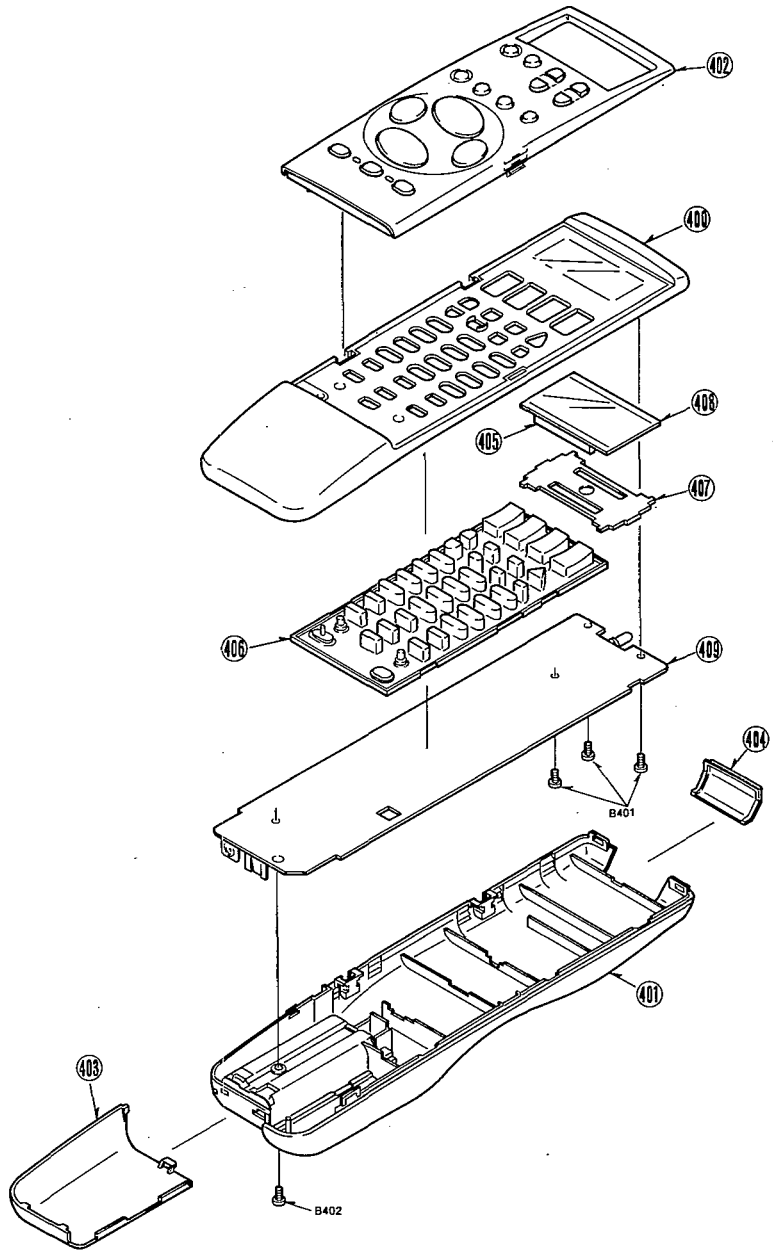
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
300(4)		VQT5592	OPERATING INSTRUCTIONS (ENGLISH)	1	<!>
302(4)		VJA0376	DIN RF CABLE	1	
303(4)		VJA0733	AC CORD	1	<!>
305(4)		VRQ1583	REMOTE CONTROLLER	1	
315(4)		VPK0834	ACCESSORIES PACKING	1	
316(4)		VPN3773	PAD	1	
318(4)		VPN3555	CUSHION (R)	1	
319(4)		VPN3556	CUSHION (L)	1	
320(4)		VPG7383	PACKING	1	
			SERVICE FIXTURES & TOOLS		
		VFJ8125H3P	VHS ALIGNMENT TAPE(PAL)	1	
		VPK0335	RETAINING RING REMOVER (3mm/4mm)	1	
		VPK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VPK0326	HEX WRENCH SET	1	
		VPK0132	BACK TENSION METER	1	
		VPK27	HEAD CLEANING STICK	1	
		MDR265	MORLYTONE GREASE	1	
		VPK0341	UPPER CYLINDER REMOVER	1	
		VPK0690	WHITE GREASE	1	
		VPK0851	CENTRE FIXING TOOL	1	
		VPK0330	FINE ADJUSTMENT GEAR DRIVER	1	
		VPK0890	6 PIN EXTENTION CABLE	1	
		VPK0944	5 PIN EXTENTION CABLE	3	

❹ PACKING PARTS SECTION



❺ REMOTE CONTROLLER UNIT



Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
400(5)		VYK5629	TOP COVER UNIT	1	
401(5)		VYK5446	BOTTOM COVER UNIT	1	
402(5)		VYK5631	DOOR PANEL UNIT	1	
403(5)		VKF2115	BATTERY COVER	1	
404(5)		VKW1802	IR WINDOW	1	
405(5)		VSQ0830	CONDUCTIVE RUBBER	2	
406(5)		VSP0799	RUBBER CONTACT	1	
407(5)		VSQ0829	LCD SPACER	1	
408(5)		VSL0318	LCD	1	
409(5)		----------	REMOTE CONTROLLER C.B.A.	1	THE C.B.A. IS NOT
					SUPPLIED AS SPARE
					PART.
B401(5)		XTB2+6G	SCREW	4	
B402(5)		XTB2+8GFZ	SCREW	1	

5-2. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP03A88C	MAIN C.B.A.	1	(RTL)
			(Page:5-8)		INCLUDING THE
					LUMINANCE &
					CHROMINANCE PACK
					C.B.A.(VEP03975V),
					Hi-Fi AUDIO PACK
					C.B.A.(VEP04447PG),
					NICAM DECORDER PACK
					C.B.A.(VEP07675A),
					TV DEMODULATOR PACK
					C.B.A.(VEP07680G).
		VEP03975V	LUMINANCE & CHROMINANCE	1	(RTL)
			PACK C.B.A.		INCLUDED IN MAIN
					C.B.A.(VEP03A88C).
		VEP04447PG	Hi-Fi AUDIO PACK C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A88C).
		VEP07675A	NICAM DECORDER PACK C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A88C).
		VEP07680G	TV DEMODULATOR PACK C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A88C).
		VEX0128	CYLINDER DRIVE C.B.A.	1	(RTL)
			(Page:5-14)		
		VEP05176C	HEAD AMP C.B.A.	1	(RTL)
			(Page:5-14)		
		VEP06931C	OPERATION C.B.A.	1	(RTL)
			(Page:5-14)		
		VEP07752E	TIMER C.B.A.	1	(RTL)
			(Page:5-14)		
		VEP01587A	POWER C.B.A.	1	(RTL)<!>
			(Page:5-15)		
		----------	MECHANISM CONNECTION C.B.A.	1	NOT SUPPLIED AS
			(Page:5-16)		C.B.A.(C.B. IS
					LISTED ON MECHANICAL
					PARTS LIST)
		----------	MOTOR C.B.A.	1	C.B.A. IS INCLUDED
			(Page:5-16)		IN LOADING MOTOR (1)
					UNIT.(VEM0427).
		ENC179N2	RF CONVERTER	1	<!>
		ENV87837H3R	TUNER	1	<!>
		XBA2C16TH15	FUSE	1	<!>
	■	VEP03A88C	MAIN C.B.A.		(RTL)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C305		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C306,07		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C308		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C309		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C310		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C311		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C312		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C313,14		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C315		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C319		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C320		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C701		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C702,03		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	2	
C706		ECUY1H104ZFG	C.CAPACITOR CH 50V 0.1U	1	
C708		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C719,20		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C721		ECQV1H823JM	P.CAPACITOR 50V 0.082U	1	
C723		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C725		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C728		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C730		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C731		VCEA1CAC100	E.CAPACITOR 16V 10U	1	
C732		ECEA1EK3R3	E.CAPACITOR 25V 3.3U	1	
C735		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C736,37		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C739		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C740		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C741		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C742		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C743		ECUM1H270JSN	C.CAPACITOR CH 50V 27P	1	
C744,45		ECEA1HK0R1	E.CAPACITOR 50V 0.1U	2	
C746		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C747		ECUM1H680JPN	C.CAPACITOR CH 50V 68P	1	
C748		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C749		ECEA1CPK100	E.CAPACITOR 16V 10U	1	
C760		ECQV1H563JM	P.CAPACITOR 50V 0.056U	1	
C761		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C782		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C801		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C802		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C803,04		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C805		ECEA0JK221	E.CAPACITOR 6.3V 220	1	
C806		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C807		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C808		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C809		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C812		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C838		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C839		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C841		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C842		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C843		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C845		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C846		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1001		ECA1EM101	E.CAPACITOR 25V 100U	1	
C1002		ECEA1AFS221	E.CAPACITOR 10V 220U	1	
C1003		ECEA0JKA330	E.CAPACITOR 6.3V 33U	1	
C1004		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C1005		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C1006		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2001		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2002		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2003		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2004		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C2005,06		ECEA1HKNR47	E.CAPACITOR 50V 0.47U	2	
C2007		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2008		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C2009,10		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C2011,12		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	2	
C2013		ECQV1H334JM	P.CAPACITOR 50V 0.33U	1	
C2014		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C2015,16		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	2	
C2017		ECEA1HKAR22	E.CAPACITOR 50V 0.22U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2018,19		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	2	
C2020		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2021		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2022		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2023		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2024		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2025,26		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2027		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C2028		ECEA1HKN3R3	E.CAPACITOR 50V 3.3U	1	
C2029		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C2030		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2031		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2032		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C2033		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2034		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2035		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C2036		ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C2037		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2038		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2039		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C2040		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2041		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C2042		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2043		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2044		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2045		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2046		ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C2047		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2048		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2049		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2050		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2051		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2052		ECA0JM101	E.CAPACITOR 6.3V 100P	1	
C3001		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3002,03		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3005		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3006		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3007		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3008		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3009		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3010		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3011		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3012		ECUM1H620JCN	C.CAPACITOR CH 50V 62P	1	
C3013		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3014		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3015		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3016		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3017		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3019		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3021		ECA0JM471	E.CAPACITOR 6.3V 470	1	
C3022		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3023		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3024		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3025		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3026		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3031		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3032		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3033		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C3034		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3035		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3036		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3037		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3038		ECEA1AFS221	E.CAPACITOR 10V 220U	1	
C3905,06		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	2	
C3907,08		VCEA1CAD100	E.CAPACITOR 16V 10U	2	
C3911		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3914,15		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C4001		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4002		ECKD2H331KB	C.CAPACITOR 500V 330P	1	
C4003		ECQP1332JZ	P.CAPACITOR 50V 3300P	1	
C4004		ECQB1H102JZ	F.CAPACITOR 50V 1000P	1	
C4005		ECQB1H153JZ	P.CAPACITOR 50V 0.015U	1	
C4006		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4007		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4008		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C4009		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4010		ECUM1H683ZFN	C.CAPACITOR CH 50V 0.068U	1	
C4011		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4034		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C4503		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4504,05		ECEA1CU470	E.CAPACITOR 16V 47U	2	
C4506		ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4507		ECQB1H223JA	P.CAPACITOR 50V 0.022U	1	
C4508		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C4509		ECEA1AU470	E.CAPACITOR 10V 47U	1	
C4510		ECQB1H103JA	P.CAPACITOR 50V 0.01U	1	
C4511		ECQB1H332JA	P.CAPACITOR 50V 3300P	1	
C4512		ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4513		ECUX1H681JV	C.CAPACITOR CH 50V 680P	1	
C4514		ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4515		ECEA1EU4R7	E.CAPACITOR 25V 4.7U	1	
C4517		ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4518		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4521		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C4522		ECEA1HU3R3	E.CAPACITOR 50V 3.3U	1	
C4524		ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4528		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4530		ECEA0JU470	E.CAPACITOR 6.3V 47U	1	
C4533		ECEA1AU330	E.CAPACITOR 10V 33U	1	
C4537		ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4538		ECEA1HUR47	E.CAPACITOR 50V 0.47U	1	
C4539		ECUM1C224ZFV	C.CAPACITOR CH 16V 0.22U	1	
C4541		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4545		ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4551		ECQB1H223JA	P.CAPACITOR 50V 0.022U	1	
C4556		ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4558		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C4559		ECEA1AU470	E.CAPACITOR 10V 47U	1	
C4560		ECQB1H103JA	P.CAPACITOR 50V 0.01U	1	
C4561		ECQB1H332JA	P.CAPACITOR 50V 3300P	1	
C4562		ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4563		ECUX1H681JV	C.CAPACITOR CH 50V 680P	1	
C4564		ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4565		ECEA1EU4R7	E.CAPACITOR 25V 4.7U	1	
C4567		ECEA1AU101	E.CAPACITOR 10V 100U	1	
C4568		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4572		ECEA1HU3R3	E.CAPACITOR 50V 3.3U	1	
C4576		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C4583		ECEA1AU330	E.CAPACITOR 10V 33U	1	
C4585,86		ECEA1AU101	E.CAPACITOR 10V 100U	2	
C4591		ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C4592		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4593		ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C4594,95		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
C4596		ECEA1CU100	E.CAPACITOR 16V 10U	1	
C4597		ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C4604		ECUM1H182JN	C.CAPACITOR CH 50V 1800P	1	
C4606		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C4616		ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C4617		ECEA10M22	E.CAPACITOR 10V 22U	1	
C4618		ECQB1H822JZ	P.CAPACITOR 50V 8200P	1	
C4621		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4629		ECQB1H822JZ	P.CAPACITOR 50V 8200P	1	
C4636		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C4638		ECQB1H822JZ	P.CAPACITOR 50V 8200P	1	
C4652,53		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C6001		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6002		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6003		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C6004		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C6005		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C6006		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C6007,08		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	2	
C6009		ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	
C6010		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C6011		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C6012		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6013		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6014		ECEA0JKA220	E.CAPACITOR 6.3V 22U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6015,16		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6017		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6018		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C6019		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7005		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C7006		ECEA1AKN100	E.CAPACITOR 10V 10U	1	
C7010		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7012		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7651		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7653		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C7654		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C7655,56		ECEA1HK010	E.CAPACITOR 50V 1U	2	
C7657		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7658		ECQP1H562JZ	P.CAPACITOR 50V 5600P	1	
C7659		ECQB1H272JH	P.CAPACITOR 50V 2700P	1	
C7661		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C7662		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C7663		ECQV1H823JM	P.CAPACITOR 50V 0.082U	1	
C7664		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C7665,66		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7667		ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7670		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7675		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C7676,77		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7680		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C7681,82		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7901-03		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C7904		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C7905		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7906		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C7907		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7908		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C7909		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7910		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7911-13		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C7914		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7915		ECUX1H100DCV	C.CAPACITOR CH 50V 10P	1	
C7916		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7917		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7918		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7919		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7920		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7921		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C7922		ECQB1H272JH	P.CAPACITOR 50V 2700P	1	
C7923		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C7924		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7925		ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C7926		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7927		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C7928		ECQB1H272JH	P.CAPACITOR 50V 2700P	1	
C7929		ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
C7930		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7931		ECUX1H561JCV	C.CAPACITOR CH 50V 560P	1	
C7932,33		ECEA1CKN100	E.CAPACITOR 16V 10U	2	
C7934		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C7935		ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C7937		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7938		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C7939,40		ECEA1HKN0R1	E.CAPACITOR 50V 0.1U	2	
C7941		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C7942		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7943		ECUX1H100DCV	C.CAPACITOR CH 50V 10P	1	
C7945		ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
C7946		ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C7947		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C7948		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7949		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C7950-53		ECEA1CKN100	E.CAPACITOR 16V 10U	4	
C7954		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C7955-58		ECEA1CK100	E.CAPACITOR 16V 10U	4	
C7960		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7961		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7963		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C7964		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7965,66		ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C7967		ECEA1CK100	E.CAPACITOR 16V 10U	1	
D302		1SS283	DIODE	1	
D304		1SS254	DIODE	1	
D710		MA3100L	DIODE	1	
D771		MA151WK	DIODE	1	
D772		MA165VT	DIODE	1	
D801,02		1SS254	DIODE	2	
D2001		1SS254	DIODE	1	
D2002		MA153	DIODE	1	
D2003,04		1SS254	DIODE	2	
D2007,08		1SS254	DIODE	2	
D2009		MA151WK	DIODE	1	
D2010		MA151K	DIODE	1	
D3003		1SS254	DIODE	1	
D3901		1SS254	DIODE	1	
D4001		MA151K	DIODE	1	
D4003		MA151WK	DIODE	1	
D4005		MA151K	DIODE	1	
D4502-04		MA141K	DIODE	3	
D6001		1SS254	DIODE	1	
D6002		MA151K	DIODE	1	
D6003		1SS254	DIODE	1	
D6005,06		1SS254	DIODE	2	
D6007		MA4075-L	DIODE	1	
D7002		MA723VT	DIODE	1	
D7004-06		11ES1	DIODE	3	
D7007		1SS254	DIODE	1	
D7601		MA151WK	DIODE	1	
D7602		MA3082M	DIODE	1	
D7901,02		MA141WK	DIODE	2	
D7904		MA141K	DIODE	1	
D7905		MA141WA	DIODE	1	
D7906		MA141WK	DIODE	1	
D7907		MA141K	DIODE	1	
DL801		VLD0147	DELAY	1	
DL802		EFDUN124A13N	DELAY	1	
FE		VJS1141	CONNECTOR(FEMALE)	1	
FL7901		VLF0702	FILTER	1	
FL7902		ELKAW103EB	FILTER	1	
FL7903		ELKAW101GB	FILTER	1	
FL7904,05		ELKAW103EB	FILTER	2	
FL7907-11		ELKAW103EB	FILTER	5	
FL7914,15		ELKAW101GB	FILTER	2	
FL7916		VLF0633	FILTER	1	
IC301		VEFH29H	IC	1	
IC701		M52014SP	IC	1	
IC2001		XRA6887-V3	IC	1	
IC2002		BA6871	IC	1	
IC2004		LM358PS	IC	1	
IC3001		NJM2233BL	IC	1	
IC4002		NJM4558M	IC	1	
IC4501		XLH7773KS	IC	1	
IC4601		BA7755AF	IC	1	
IC6001		MN67434VRSR	IC	1	
IC7651		AN5421	IC	1	
IC7652		AN5043	IC	1	
IC7653		MN4066BS	IC	1	
IC7901		TB1204F	IC	1	
IC7902		TA2009F	IC	1	
IC7903		M5238FP	IC	1	
J3901		VJJ0348	AV OUTPUT JACK	1	
J3903		VJS3539	21-PIN SCART TERMINAL	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L303		ELESQ220KA	COIL 22UH	1	
L304		ELESQ101KA	COIL 100UH	1	
L305		ELESQ560JA	COIL 56UH	1	
L306		ELESQ820KA	COIL 82UH	1	
L701		ELESQ680KA	COIL 68UH	1	
L713		VLQ0213K1R2	COIL 1.2UH	1	
L714		ELQT1R2KB	COIL 1.2UH	1	
L718		ELESQ680KA	COIL 68UH	1	
L719		ELESQ8R2KA	COIL 8.2UH	1	
L801,02		VLQ0540J150	COIL 15UH	2	
L803		ELESQ5R6KA	COIL 5.6UH	1	
L804		ELESQ101KA	COIL 100UH	1	
L805		ELESQ270KA	COIL 27UH	1	
L807		VLQ0540J150	COIL 15UH	1	
L811,12		ELESQ101KA	COIL 100UH	2	
L2001		VLP0074	COIL	1	
L2002		ELESE102KA	COIL 1000UH	1	
L2003,04		VLQ0599J680	COIL	2	
L2005		VLP0083	COIL	1	
L2006		VLQ0599J680	COIL	1	
L3001		VLQ0599J680	COIL	1	
L3002		VLQ0599J151	COIL 150UH	1	
L3003		VLQ0599J820	COIL H	1	
L3005		VLQ0599J680	COIL	1	
L3006		VLQ0599J101	COIL 100UH	1	
L3007		VLQ0599J680	COIL	1	
L3009		VLQ0599J120	COIL H	1	
L3010		VLQ0599J6R8	COIL H	1	
L3011		VLQ0599J680	COIL	1	
L3012		VLQ0599J270	COIL 27UH	1	
L4001,02		ERJ6GMZOR00	M.RESISTOR 1/10W 0	2	
L4501,02		ELESE101KA	COIL 100UH	2	
L4601		VLQEL07F153J	COIL 15MH	1	
L6001		VLP0074	COIL	1	
L6005		VLQ0599J331	COIL H	1	
L7003		VLQ0599J3R3	COIL H	1	
L7004		VLQ0599J680	COIL	1	
L7005		VLQ0599J1R0	COIL 1UH	1	
L7006		VLQ0599J680	COIL	1	
L7008		VLQ0599J1R0	COIL 1UH	1	
L7901,02		VLP0083	COIL	2	
P1001		VJS3537A010G	CONNECTOR (FEMALE) 10P	1	
P2001		VJP1232T	CONNECTOR (MALE) 5P	1	
P2001		VJS1738T	CONNECTOR (FEMALE)	1	
P2002		VJS3537A015G	CONNECTOR (FEMALE) 15P	1	
P2003		VJP3502	CONNECTOR (MALE)	1	
P2503		VJS3482	CONNECTOR (FEMALE)	1	
P2902		VJS1738T	CONNECTOR (FEMALE)	1	
P3001		VJS3537A020G	CONNECTOR (FEMALE) 20P	1	
P4001		VJS2331	CONNECTOR (FEMALE)	1	
P4002		VJP1230T	CONNECTOR (MALE) 3P	1	
P4002		VJS1230T	CONNECTOR (FEMALE)	1	
P6001		VJS3537A025G	CONNECTOR (FEMALE) 25P	1	
P6002		VJS3537A012G	CONNECTOR (FEMALE) 12P	1	
P6004		VJS3537A013G	CONNECTOR (FEMALE) 13P	1	
PK4001-03		VJR0757B018T	CONNECTOR	3	
PK7901,02		VJR0477	PACK PIN	2	
PP3001		VJP3044G009W	CONNECTOR (MALE) 9P	1	
PP3002		VJP3044G012W	CONNECTOR (MALE) 12P	1	
PP3003		VJP3044G006W	CONNECTOR (MALE) 6P	1	
PP7001		VJP3043A006W	CONNECTOR (MALE) 6P	1	
PP7002-05		VJP3043A005W	CONNECTOR (MALE) 5P	4	
PP7006		VJP3043A010W	CONNECTOR (MALE) 10P	1	
PS301		VJS3044F009W	CONNECTOR (FEMALE) 9P	1	
PS302		VJS3044F012W	CONNECTOR (FEMALE) 12P	1	
PS303		VJS3044F006W	CONNECTOR (FEMALE) 6P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
PS701-03		VJS3043B005W	CONNECTOR (FEMALE) 5P	3	
PS704		VJS3043B006W	CONNECTOR (FEMALE) 6P	1	
Q703		MSD601-S	TRANSISTOR	1	
Q711		MSB709-R	TRANSISTOR	1	
Q712		2SD1996-R	TRANSISTOR	1	
Q713		2SD1328-S	TRANSISTOR	1	
Q771		MSD601	TRANSISTOR	1	
Q772		MSD601-S	TRANSISTOR	1	
Q801		MSC2295	TRANSISTOR	1	
Q802		MSD601	TRANSISTOR	1	
Q808		MSB709	TRANSISTOR	1	
Q1001		MSD1328	TRANSISTOR	1	
Q3001,02		MSD601-R	TRANSISTOR	2	
Q3003		MSB709-R	TRANSISTOR	1	
Q3005		MSD601-R	TRANSISTOR	1	
Q3006		MSC2295	TRANSISTOR	1	
Q3007		MSB709-R	TRANSISTOR	1	
Q3008		MSC2295	TRANSISTOR	1	
Q3010		2SB709	TRANSISTOR	1	
Q3011		2SB1321-R	TRANSISTOR	1	
Q4002		2SD602A-R	TRANSISTOR	1	
Q4003		MSD601	TRANSISTOR	1	
Q4501		2SD655	TRANSISTOR	1	
Q4551		2SB561	TRANSISTOR	1	
Q4552		2SD1819A	TRANSISTOR	1	
Q6001		2SD1991A	TRANSISTOR	1	
Q6002		MSB709-R	TRANSISTOR	1	
Q6004,05		2SB1321-R	TRANSISTOR	2	
Q7901,02		MSD601	TRANSISTOR	2	
Q7903		2SC3931CD	TRANSISTOR	1	
Q7904-07		2SB1219	TRANSISTOR	4	
Q7908,09		2SC3929	TRANSISTOR	2	
Q7910		2SD1820	TRANSISTOR	1	
Q7913		2SB1218-Q	TRANSISTOR	1	
Q7914,15		2SD1979-S	TRANSISTOR	2	
Q7916		2SB1219	TRANSISTOR	1	
QR701		UN4214	TRANSISTOR-RESISTOR	1	
QR702		MRN1404	TRANSISTOR-RESISTOR	1	
QR713		MRN1402	TRANSISTOR-RESISTOR	1	
QR804		MRN2404	TRANSISTOR-RESISTOR	1	
QR805		MRN1404	TRANSISTOR-RESISTOR	1	
QR2002		UN2114	TRANSISTOR-RESISTOR	1	
QR2003		XN1213	TRANSISTOR-TRANSISTOR	1	
QR3001		UN2111T	TRANSISTOR-RESISTOR	1	
QR3002,03		DTC363EK	TRANSISTOR-RESISTOR	2	
QR3006		UN2213T	TRANSISTOR-RESISTOR	1	
QR4002		UN2213T	TRANSISTOR-RESISTOR	1	
QR6001		XN1211	TRANSISTOR-RESISTOR	1	
QR6003		UN2211T	TRANSISTOR-RESISTOR	1	
QR6004		UN2212T	TRANSISTOR-RESISTOR	1	
QR7601		MRN1404	TRANSISTOR-RESISTOR	1	
QR7901,02		UN5213	TRANSISTOR-RESISTOR	2	
QR7903		UN5112	TRANSISTOR-RESISTOR	1	
QR7904		UN5214	TRANSISTOR-RESISTOR	1	
QR7905,06		UN5213	TRANSISTOR-RESISTOR	2	
R304		ERJ6GMZOR00	M.RESISTOR 1/10W 0	1	
R307		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R308		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R310		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R315		ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	1	
R316		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R318,19		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R322		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R327		ERJ6GEYK125	M.RESISTOR CH 1/10W 1.2M	1	
R716		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R719		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R720		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R721		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R724		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R725		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R727		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R728		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R729		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R730		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R736		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R737		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R738		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R739		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R740		ERJ6GEYJ394	M.RESISTOR CH 1/10W 390K	1	
R741		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R742		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R743		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R744		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R745		ERJ6GEYG181	M.RESISTOR CH 1/10W 180	1	
R746		ERDS2TJ151	C.RESISTOR 4W 150	1	
R750		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R757,58		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R759		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R763		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R772		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R773		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R774		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R779		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R781		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R790		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R791		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	
R798		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R801		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R802,03		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	2	
R804,05		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R806		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R807		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R813		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R814		ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	1	
R815		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R827		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R828		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R848		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R849		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R850		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R853		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R855		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R856		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R857		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R859		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R1001		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2001		ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R2002		ERJ6GMYG913	M.RESISTOR CH 1/10W 91K	1	
R2003		ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R2004-06		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R2007,08		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	2	
R2009		ERX12SJR47	M.RESISTOR 1/12W 0.47U	1	
R2010		ERDS2TJ560	C.RESISTOR 1/4W 56	1	
R2011,12		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	2	
R2013		ERDS2TJ681	C.RESISTOR 1/4W 680	1	
R2014		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R2015,16		ERDS2TJ560	C.RESISTOR 1/4W 56	2	
R2017		ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2018		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2019		ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2020		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2022		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R2023		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R2024		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R2025		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R2026		ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R2027,28		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2029		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2032		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2033		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R2034		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2035		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2036,37		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R2038		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2039		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R2040		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2041		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2042,43		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2044		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2045		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2046		ERJ6GMYG273	M.RESISTOR CH 1/10W 27K	1	
R2047		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2048		ERJ6GMYG124	M.RESISTOR CH 1/10W 120K	1	
R2050		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R2051		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2053,54		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R2055		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R2056,57		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	2	
R3001		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3002		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3003		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3004		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3005		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3006		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3007		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3008		ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R3009		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3010		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3011		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R3012,13		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	2	
R3014		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3015,16		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	2	
R3017		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3018		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3019,20		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	2	
R3021		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3022		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3023		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3026		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3028		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R3030		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3033		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3035,36		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R3037		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3038		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3901,02		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	2	
R3903,04		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R3905,06		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	2	
R3908		ERDS2TJ151	C.RESISTOR 1/4W 150	1	
R3909		ERDS2TJ393	C.RESISTOR 1/4W 39K	1	
R3912		ERDS2TJ393	C.RESISTOR 1/4W 39K	1	
R3913		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3915		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	
R3917		ERJ6GMZOR00	M.RESISTOR 1/10W 0	1	
R3919		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3920		ERJ6GMZOR00	M.RESISTOR 1/10W 0	1	
R3921		ERDS2TJ151	C.RESISTOR 1/4W 150	1	
R3922,23		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R4003		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4004		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R4005		ERJ6GMYJ823	M.RESISTOR CH 1/10W 82K	1	
R4006		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R4007		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R4008		ERJ6GMYJ823	M.RESISTOR CH 1/10W 82K	1	
R4009		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
R4010,11		ERJ6GMYJ823	M.RESISTOR CH 1/10W 82K	2	
R4012		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R4013		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R4014		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4016		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R4017		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R4018		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R4501,02		ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2	
R4503		VRE0071E36C	M.RESISTOR	1	
R4504,05		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R4506,07		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4508		ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4509		VRE0071E622	M.RESISTOR	1	
R4511		ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4512		VRE0071E153	M.RESISTOR	1	
R4513		ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R4518,19		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4522		ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R4527		VRE0071E333	M.RESISTOR	1	
R4528		VRE0071E153	M.RESISTOR	1	
R4529		ERJ3GEYG562	M.RESISTOR CH 1/16W 5.6K	1	
R4530		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4534		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4535		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4539		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4541		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4542		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4543		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4551,52		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R4553,54		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4558		ERJ3GEYG224	M.RESISTOR CH 1/16W 220K	1	
R4561		ERJ3GEYG273	M.RESISTOR CH 1/16W 27K	1	
R4562		VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R4563		ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	1	
R4568,69		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4572		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4573		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4577		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4578		VRE0071E473	M.RESISTOR	1	
R4581		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4583		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R4584		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4585		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4586		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R4587,88		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4591		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4592		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R4593		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R4594		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4596		ERJ3GEYG473	M.RESISTOR CH 1/16W 47K	1	
R4597		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4598,99		ERJ3GEYG104	M.RESISTOR CH 1/16W 100K	2	
R4603		ERJ3GEYG183	M.RESISTOR CH 1/16W 18K	1	
R4606		VRE0071E562	M.RESISTOR	1	
R4610		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4611		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R4612		VRE0071E331	M.RESISTOR	1	
R4613		ERJ3GEYG394	M.RESISTOR CH 1/16W 390K	1	
R4615		VRE0071E133	M.RESISTOR	1	
R4616		ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R4649		ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4653		ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4656		ERJ3GEYG243	M.RESISTOR CH 1/16W 24K	1	
R4657		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4666		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R4670		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R4671		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6001		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6002		ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R6004		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6005-07		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	3	
R6008		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6009-11		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	3	
R6012		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6013		EROS2CKG2000	M.RESISTOR 1/4W 200	1	
R6014,15		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R6016		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6017		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R6018		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6019		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6020		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6021		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6022		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R6023		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6024-29		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	6	
R6030,31		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R6032,33		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	2	
R6034,35		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6036		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6037		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R6038		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R6039		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R6040		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R6042		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6043		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6044		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6048		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6049		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R6050		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6051		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R7001,02		ERJ6GMYJ151	M.RESISTOR CH 1/10W 150	2	
R7651		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7654		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R7655		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R7656		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7657		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7658		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R7659		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R7661		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R7662		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R7663		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7664		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7671,72		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R7673		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7674		ERJ6GEYF124	M.RESISTOR CH 1/10W 120K	1	
R7675		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7676		ERG1SJ152	M.RESISTOR 1W 1.5K	1	
R7677		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7678		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R7679		ERDS2TJ100	C.RESISTOR 1/4W 10	1	
R7680		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7681,82		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R7683		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R7684		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R7691		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7692		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7693		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7694		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7695		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R7696		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R7901		ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R7902		ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R7903		ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R7904		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R7905		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R7906		ERJ6GEYJ150	M.RESISTOR CH 1/10W 15	1	
R7907		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R7908		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R7909-11		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	3	
R7913-15		ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	3	
R7917		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7918-21		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	4	
R7922		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R7923		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R7924-26		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R7927		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R7928		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7929		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R7930		ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R7931-33		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R7934		ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R7935		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R7936		ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7937		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R7938		ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7939		ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R7940		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R7941		ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R7942		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R7943		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7944		ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R7945		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R7946,47		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R7948		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7949		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R7950		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R7951		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R7956		ERJ3GEYJ822	M.RESISTOR CH 1/16W 8,2K	1	
R7957		ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R7958,59		ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	2	
R7960,61		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R7962,63		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R7964		ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R7969-72		ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4	
R7973-77		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	5	
R7978		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R7979		ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R7980		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R7981,82		ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R7983		ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7985		ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R7987		ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R7988		ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	1	
R7989		ERDS2TJ823	C.RESISTOR 1/4W 82K	1	
SW3901		VSS0233	SWITCH	1	
T703		EIV5EC045A	TRANSFORMER	1	
T704		EIV5EC047A	TRANSFORMER	1	
T711		EIS5EC008A	TRANSFORMER	1	
T4001		EIQ7QF014Q	TRANSFORMER	1	
TR		VJS3481	CONNECTOR (FEMALE)	1	
VR701		EVNCBAA00B53	V.RESISTOR	1	
VR751		EVNCBAA00B53	V.RESISTOR	1	
VR801,02		EVTEASA00B13	V.RESISTOR	2	
VR2001		EVNDXAA00B54	V.RESISTOR 50K	1	
VR2006		EVNDXAA00B15	V.RESISTOR 100K	1	
VR2011		EVNDXAA00B15	V.RESISTOR 100K	1	
VR3001		EVNDXAA00B23	V.RESISTOR 5K	1	
VR3012,13		EVNDXAA00B52	V.RESISTOR 500	2	
VR4001		EVNDXAA00B25	V.RESISTOR 200K	1	
VR4501		EVMECSA00B53	V.RESISTOR	1	
VR4502		EVMEASA00BY4	V.RESISTOR W	1	
VR4507		EVMEASA00BY4	V.RESISTOR W	1	
VR4509		EVMECSA00BY3	V.RESISTOR	1	
VR4550		EVMECSA00BS3	V.RESISTOR	1	
VR7660		EVNCBAA00B23	V.RESISTOR	1	
VR7901,02		EVNCBAA00B14	V.RESISTOR	2	
VR7903		EVTEASA00B55	V.RESISTOR	1	
VR8001		EVNDXAA00B23	V.RESISTOR 5K	1	
X710		EFCH39MGQ1	CRYSTAL OSCILLATOR	1	
X711		EFCS6M65MW3B	CRYSTAL OSCILLATOR	1	
X712		EFCS6R0MS5	CRYSTAL OSCILLATOR	1	
X801		VSX0162	CRYSTAL OSCILLATOR	1	
X6001		VSX0609	CRYSTAL OSCILLATOR	1	
X7901		VSX0513	CRYSTAL OSCILLATOR	1	
X7902		VSX0512	CRYSTAL OSCILLATOR	1	
X7903		EFCA6004BF	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VEK6605	EARTH WIRE	1	(TV DEMODU.-POWER SHIELD CASE)
		ENC179N2	RF CONVERTER	1	<!>
		VEE8474	WIRE CABLE	1	(P2001-P2902)
		VEE8564	WIRE CABLE	1	(P2003-POWER TRANSISTOR)
		VEE8969	WIRE CABLE	1	(P4002-FE HEAD)
		VJF1031	CLAMPER	1	
		VJH0739	REAR JACK PLACE	1	
		VWJ25C9200BB	FLAT CARD CABLE	1	(P6001-P7501)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VWJ12C9200BB	FLAT CARD CABLE	1	(P6002-P7502)
		VWJ0745	FLAT CARD CABLE	1	(P3001-P501)
		VWJ0746	FLAT CARD CABLE	1	(P6004-P1505)
		VWJ0825	FLAT CARD CABLE	1	(P2002-CAPSTAN)
		VWJ0826B	FLAT CARD CABLE	1	(P1001-P1102)
		VSC3553	SHIELD COVER (MAIN)	1	FOR NICAM DECORDER
		VSC3554	SHIELD COVER (TOP)	1	FOR NICAM DECORDER
		VSC3555	SHIELD COVER (BOTTOM)	1	FOR NICAM DECORDER
		ENV87837H3R	TUNER	1	<!>FOR TV DEMODULATOR
		VSC3242	SHIELD COVER (MAIN)	1	FOR TV DEMODULATOR
		VSC3241	SHIELD COVER (TOP)	1	FOR TV DEMODULATOR
	■	VEX0128	CYLINDER DRIVE C.B.A.		(RTL)
C2901-03		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	3	
C2904-06		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	3	
C2907		ECUM1E683KBM	C.CAPACITOR CH 25V 0.068U	1	
C2908		ECUM1E473KBM	C.CAPACITOR CH 25V 0.047U	1	
C2910		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
IC2901		AN3815K	IC	1	
P2901		VJP2603W	CONNECTOR (MALE)	1	
P2902		VJP1232T	CONNECTOR (MALE) 5P	1	
R2901		ERX12SJR47	M.RESISTOR 1/12W 0.47U	1	
			MISCELLANEOUS		
		VMA8089	MAIN HOLDER	1	
	■	VEP05176C	HEAD AMP C.B.A.		(RTL)
C503		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C505-08		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C509		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C510,11		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C512		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C513		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C514		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C515,16		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C517,18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C519,20		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C521		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C523-25		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C526		VCEA0JAC221	E.CAPACITOR 6.3V 220U	1	
C527		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C540		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C551		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C552-54		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C555		ECEA0JPK221	E.CAPACITOR 6.3V 220U	1	
C556,57		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C559		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C560,61		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C562,63		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C564		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C565		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C566		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C567		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C569		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
IC501		AN3336SB	IC	1	
IC551		BA7743FS	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L501,02		VLQ0540K330	COIL 33UH	2	
L551,52		VLQ0540K330	COIL 33UH	2	
P501		VJS3537B020G	CONNECTOR (FEMALE) 20P	1	
P502		VJS2603	CONNECTOR (FEMALE)	1	
QR501		MRN2404	TRANSISTOR-RESISTOR	1	
R501		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R502		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R503		ERJ6GMYG752	M.RESISTOR CH 1/10W 7.5K	1	
R504		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R505		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R506		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R507		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R508		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R509-12		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	4	
R513		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R514		ERJ6GMYJ274	M.RESISTOR CH 1/10W 270K	1	
R517		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
R526		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R551		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R552		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R553		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R554		ERJ6GMYJ243	M.RESISTOR CH 1/10W 24K	1	
R556		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R557		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R558		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R559,60		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R561		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R562		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R563		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R564		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R565		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R566		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R567		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R568		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R569		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R570		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
			MISCELLANEOUS		
		VSC3714	SHIELD COVER (TOP)	1	
		VSC3478	SHIELD COVER (MAIN)	1	
		VSC3715	SHIELD COVER (BOTTOM)	1	
	■	VEP06931C	OPEATION C.B.A.		(RTL)
D6501,02		1SS254	DIODE	2	
PS6501		VJS3405A009A	CONNECTOR (FEMALE) 9P	1	
Q6501,02		MSD601	TRANSISTOR	2	
QR6501		MRN1407	TRANSISTOR-RESISTOR	1	
R6501		ERDS2TJ911	C.RESISTOR 1/4W 910	1	
R6502		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R6503		ERDS2TJ911	C.RESISTOR 1/4W 910	1	
R6504		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R6505,06		ERDS2TJ473	C.RESISTOR 1/4W 47K	2	
R6507		VWJ0023	JUMPER 0	1	
R6508		ERDS2TJ391	C.RESISTOR 1/4W 390	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
SW6501,02		EVQ11409K	SWITCH	2	
	■	VEP07752E	TIMER C.B.A.		(RTL)
C1701		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C1702		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1703		ECKD2H471KB	E.CAPACITOR 500V 470P	1	
C1704		ECEA1VKA220	E.CAPACITOR 35V 22U	1	
C1705		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1706		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C1707		ECEA0JK221	E.CAPACITOR 6.3V 220	1	
C1708		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7501		ECRHA030E54R	V.CAPACITOR	1	
C7502		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C7503		ECEA1HKA220	E.CAPACITOR 50V 22U	1	
C7504		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7505		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C7506		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7507,08		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	2	
C7509		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7510		ECEA0JM471	E.CAPACITOR 6.3V 470U	1	
C7511		EECS5R5V104N	CAPACITOR	1	
C7512		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7513		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C7514		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C7517,18		ECEA0JKS470	E.CAPACITOR 6.3V 47U	2	
C7519		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7522		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
D1701		MA1270-H	DIODE	1	
D1702		1SS254	DIODE	1	
D1703		11EQS04	DIODE	1	
D7501		MA3075	DIODE	1	
D7502		MA221	DIODE	1	
D7505		MA221	DIODE	1	
D7511,12		MA221	DIODE	2	
D7517		MA221	DIODE	1	
D7519,20		MA221	DIODE	2	
D7523-28		1SS254	DIODE	6	
D7530,31		1SS254	DIODE	2	
D7534-38		LN81RCPHLULS	DIODE	5	
D7539		VSD0016	DIODE	1	
D7549		1SS254	DIODE	1	
DP7501		VSL0316	DISPLAY TUBE	1	
IC7501		MN187164VZBL	IC	1	
IC7502		PST7026	IC	1	
IC7503		MGM80011AP	IC	1	
IC7504		PST7043	IC	1	
IR7501		VEK6407	JACK	1	
L1701		VLQ0599J680	COIL	1	
L7501		VLQ0599J101	COIL 100UH	1	
P7501		VJS3537B025G	CONNECTOR (FEMALE) 25P	1	
P7502		VJS3537B012G	CONNECTOR (FEMALE) 12P	1	
PP7501		VJP3405A009W	CONNECTOR (MALE) 9P	1	
Q1701		2SD973A-R.VT	TRANSISTOR	1	
Q1702		2SD1996	TRANSISTOR	1	
Q7501		2SD1996	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q7502		MSB710	TRANSISTOR	1	
Q7503		MSD601	TRANSISTOR	1	
QR1701		MRN1407	TRANSISTOR-RESISTOR	1	
QR7501,02		MRN2402	TRANSISTOR-RESISTOR	2	
QR7503		MRN1404	TRANSISTOR-RESISTOR	1	
QR7506		MRN2404	TRANSISTOR-RESISTOR	1	
R1701		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R1702		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R1703		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R1704		ERJ6GMZOR00	M.RESISTOR 1/10W 0	1	
R1705		ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R7501		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R7502		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R7503,04		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	2	
R7505		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R7506		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7507		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R7508		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R7509		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7510		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R7511		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7512		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7514		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7515-18		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	4	
R7519-23		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	5	
R7524,25		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	2	
R7529-36		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	8	
R7537		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R7538		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7540		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R7541,42		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R7543		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7544,45		ERJ6GMYJ823	M.RESISTOR CH 1/10W 82K	2	
SW7501-06		EVQ11409K	SWITCH	6	
SW7508-14		EVQ11409K	SWITCH	7	
SW7515		ESD172252	SWITCH	1	
SW7517		ESD172252	SWITCH	1	
T1701		ETE13K80AY	TRANSFORMER	1	
X7501		VSX0608	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VJF1096	FIP HOLDER	1	
		VMD0504	LED HOLDER	5	
		VMD2214	LED HOLDER	1	
	■	VEP01587A	POWER C.B.A.		(RTL)<!>
C1103		VCC0021	C.CAPACITOR	1	<!>
C1106		VCC0021	C.CAPACITOR	1	<!>
C1109		VCC0022	C.CAPACITOR 1000P	1	<!>
C1110		ECQU2A563MNB	P.CAPACITOR 250V 0.056U	1	<!>
C1111		ECQU2A333MNB	P.CAPACITOR 250V 0.033U	1	<!>
C1112		ECEC2GG330	E.CAPACITOR 400V 33P	1	
C1113		ECQE6473KF	P.CAPACITOR 50V	1	
C1114		VCK0106K121	C.CAPACITOR	1	
C1115		ECEA1JFE470	E.CAPACITOR 63V 47U	1	
C1116		EEUFA1E681	CAPACITOR	1	
C1117		ECEA1DFZ681	E.CAPACITOR 20V 680U	1	
C1118,19		ECEA1AFZ681X	E.CAPACITOR 10V 680U	2	
C1121		ECCD2H101J	C.CAPACITOR 500V 100P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1122		ECQB1H473JF	P.CAPACITOR 50V 0.047U	1	
C1123		ECA1VXLV470	E.CAPACITOR 35V 47U	1	
C1124		ECKF1H271KB	E.CAPACITOR 50V 270U	1	
C1125		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
C1126		ECAOGXLV331	E.CAPACITOR 4V 330	1	
C1127		ECA1CFQ121	E.CAPACITOR 16V 120U	1	
C1128		ECA1CGE101	E.CAPACITOR 16V 100U	1	
C1129		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1130		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
D1102		S1WBA60S	DIODE	1	<!>
D1103		AP01C	DIODE	1	
D1104		10ELS2	DIODE	1	
D1105		RL4Z	DIODE	1	
D1106		31DQ04	DIODE	1	
D1107		MA185	DIODE	1	
D1108		MA178	DIODE	1	
D1109		MA723VT	DIODE	1	
D1110		MA420OH	DIODE	1	
D1111		MA185	DIODE	1	
IC1101		HA17431PA	IC	1	
IC1102		STRM6559LF	IC	1	<!>
L1101		ELF18D221F	COIL 220UH	1	<!>
L1102		ELF18D290A	COIL 29UH	1	<!>
L1109,10		VLQ0611K220	COIL H	2	
L1111,12		ELESE101KA	COIL 100UH	2	
L1114		VLP0074	COIL	1	
P1101		VJS2625	AC INLET	1	<!>
P1102		VJS3537B010G	CONNECTOR (FEMALE) 10P	1	
Q1101		PC120FY	TRANSISTOR	1	<!>
Q1102		2SD2375	TRANSISTOR	1	
Q1103		2SD1991	TRANSISTOR	1	
QR1101		UN4213	TRANSISTOR-RESISTOR	1	
R1104		ERG3SJ683	M.RESISTOR 1/16W 68K	1	
R1105		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R1106		ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R1107		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	
R1108		EROS2CKG2401	M.RESISTOR 1/4W 2.4K	1	
R1109		ERDS2TJ273	C.RESISTOR 1/4W 27K	1	
R1110		EROS2CKG2701	M.RESISTOR 1/4W 2.7K	1	
R1111		ERDS2TJ153	C.RESISTOR 1/4W 15K	1	
R1112		ERDS2TJ563	C.RESISTOR 1/4W 56K	1	
R1113		ERDS2FJ101	C.RESISTOR 1/4W 100	1	
R1114		ERDS2FJ103	C.RESISTOR 1/4W 10K	1	
R1115,16		ERDS2FJ224	C.RESISTOR 1/4W 220K	2	
R1117		ERDS2FJ221	C.RESISTOR 1/4W 220	1	
R1118		ERDS2FJ471	C.RESISTOR 1/4W 470	1	
R1119		ERDS2FJ152	C.RESISTOR 1/4W 1.5K	1	
R1120		ERDS1TJ395	C.RESISTOR 1/2W 3.9M	1	
R1121		ERDS1TJ475	C.RESISTOR 1/2W 4.7M	1	
R1122		ERX1SJR82	M.RESISTOR 1W 0.82	1	
R1123		ERDS2FJ471	C.RESISTOR 1/4W 470	1	
R1124		ERDS2FJ224	C.RESISTOR 1/4W 220K	1	
R1125		ERDS1TJ472	C.RESISTOR 1/2W 4.7K	1	
R1126		EROS2CKG2701	M.RESISTOR 1/4W 2.7K	1	
R1127		EROS2CKG2401	M.RESISTOR 1/4W 2.4K	1	
T1101		ETE28K85AY	TRANSFORMER	1	<!>
			MISCELLANEOUS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VM22212	CAPCITOR COVER	3	<!>
		EYF52BC	FUSE HOLDER	2	<!>
		VMC0811	HEAT SINK SPRING	1	
		VSC4057	HEAT SINK	1	
	■	----------	MECHANISM CONNECTION C.B.A.		
D1501		LN59L.VT	IC	1	
IC1501,02		ON1387	DIODE	2	
P1503		VJS3316A002	CONNECTOR (FEMALE) 2P	1	
P1504		VJS3317A004	CONNECTOR (FEMALE) 4P	1	
P1505		VJS3537B013G	CONNECTOR (FEMALE) 13P	1	
Q1501,02		PN205L-NC.VT	IC	2	
SW1501		VES0695	JACK	1	
			MISCELLANEOUS		
		VMD2029	REEL GUIDE	1	
	■	----------	MOTOR C.B.A.		(RTL)
			MISCELLANEOUS		
		VJP3316B002	CONNECTOR (MALE) 2P	1	

INTERNAL REFERENCE CODES

NOTE: This chart is only for internal reference.
Do not order any parts according to these codes.

P. C. B.	FILM CODE
MAIN	H0A000-03A88
LUMINANNCE & CHROMINANCE	H0A000-03975
POWER	H0A000-01587
SYUGO (TIMER/OPERATION)	H0A000-0243A
TV DEMODULATOR	H0A001-07680
NICAM DECORDER	H0A000-07675
HEAD AMP	H0A004-05176
HI-FI AUDIO	H0A000-04447
MECHANISM CONNECTION	H0A000-00S63
CYLINDER DRIVE	H0A002-00R99
LOADING MOTOR	H0A000-00S75

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